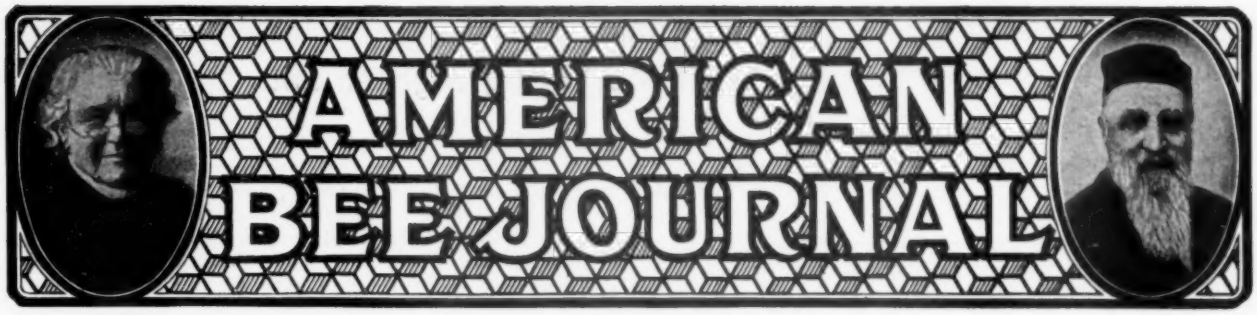


Vol. LXXIV—No. 1 Hamilton, Illinois, January, 1934 Monthly, $1.00 a Year

Southern Conference Adopts Code for Shippers of Bees and Queens

By M. G. Dadant

THE Southern States Conference of Beekeepers was held at the Monteleone Hotel in New Orleans on December 11 and 12, followed on December 13 by a hearing on the proposed code for queen and package bee shippers. About 100 beekeepers attended, among whom were most of the larger package shippers of the country.

Outstanding, was the presentation of the American Honey Institute by Mrs. Jensen, its secretary.

The feature of the meeting, however, was the proposed code for queen and package business which was discussed pro and con by all the shippers there. It was estimated that at least 90 percent of the shipping volume was represented, either personally or by proxy. The shippers were 90 percent or more in accord with the code and with the prices suggested by the control committee. Mr. Sample of the A.A.A. in Washington, as well as Jas. I. Hambleton of the Bee Culture Laboratory were of great help in explaining the code and its purposes.

The formal hearing was held before Mr. Pierson, also of the National Capitol. The writer has never heard a more fair and more equitably conducted hearing than this one. Mr. Pierson, himself at one time a beekeeper, and thus fitted especially to handle the situation, gave a chance for everyone to be heard, and stressed, that the Department at Washington was desiring to find an equitable basis for placing the code so that it might mean not only that the northern buyer would be assured of service and quality at a fair price, but also that it might guarantee to the Southern shipper a fair return for his efforts so he may continue in the business and assure a dependable source of supply for package and queens.

The proposed code is too long to be published in this issue. With minor changes it is substantially as given in our October number. In some instances the legal verbiage has been altered, and there are a few minor changes otherwise. The chief alteration has been that the prices have been left entirely out of the code proper. The code, however, does stipulate that the Control Committee of five members shall have the right to stipulate prices at which queens and bees shall be sold, with the approval of the Secretary of Agriculture.

While the code is not yet in operation, since it must first be signed by the Secretary of Agriculture, the hearing was so satisfactory, with so few objections on the part of either buyers or shippers that it may be presumed that complete sanction will be given.

The Control Committee presented the prices at which it was proposed queens and bees should be sold. There were few objectors. The chief change which has been made since prices were published in our October issue is that concessions have been made to the larger buyers, in that the 100 quantity buyer may deduct a 10 percent discount, and the 250 quantity buyer a 15 percent discount, whether beekeeper, dealer, or association.

While not officially appointed, we believe we are safe in stating that Prof. J. M. Robinson of Auburn, Ala., is slated to be Managing Director of the code for the Control Committee.

As now written, and as it will likely be adopted, the code requires that **every shipper of, or dealer in bees is required to sign the code and to abide by its regulations as well as by the prices which the Control Committee has established.** Copies of the code will not be available for some time, but we suggest that you secure a copy for signature from Prof. Robinson, as above. He will send you your copy as soon as issued.

The Secretary will issue a blanket license for the industry. Once the code is in operation the Secretary issues a blanket license to all dealers and shippers. It is incumbent on them, then, to sign a copy of the code and properly file it with Prof. Robinson **before they can ship.**

This does not mean, however, that they cannot immediately start booking for future delivery, and it was the semi-official interpretation that it would be safe to do so, both on the part of the buyer and the shipper, providing the provisions of the code both as to fair dealing and as to price were complied with.

Some may question why the prices were omitted from the code and left in the hands of the Control Committee. This was done at Washington with the feeling that there would be greater elasticity by leaving this in the hands of a committee who would be nearest to complaints from the buyers, and also in close contact with the shippers. In other words, since all prices and price changes are subject to review and change by the Secretary of Agriculture, for best operation of the code with least delay, the Control Committee should be given the direct responsibility of the price structure and its changes to correspond to changing conditions.

The Conference selected as their president for 1934, W. E. Harrell of Hayneville, Alabama; and as its Secretary, G. G. Puett of Hahira, Georgia. The next annual meeting is to be held at Valdosta, Georgia. It is

hoped to make it a great North and South "Get-together" of beekeepers.

Code Prices for Bees and Queens

The MINIMUM RETAIL PRICES for package bees, nuclei, and queens shall be as follows:

(a) Prices of Queens Postpaid—November 1 to May 31.

One to nine (1 to 9) queens	$ .85 ea.
Ten to twenty-four (10 to 24) queens	.80 ea.
Twenty-five to forty-nine (25 to 49) queens	.75 ea.
Fifty (50) queens or more	.70 ea.

(b) Prices of Queens Postpaid—June 1 to October 31.

One to nine (1 to 9) queens	$ .70 ea.
Ten to twenty-four (10 to 24) queens	.65 ea.
Twenty-five to forty-nine (25 to 49) queens	.55 ea.
Fifty (50) queens or more	.50 ea.

(c) The price of purely mated queens shall be double the price of untested queens.

(d) Prices of Package Bees with Queens—Express Collect, November 1 to May 31.

Two (2) pounds of bees net.

One to nine (1 to 9) packages	$2.65 ea.
Ten to forty-nine (10 to 49) packages	2.55 ea.
Fifty (50) or more packages	2.45 ea.

Three (3) pounds of bees net.

One to nine (1 to 9) packages	$3.40 ea.
Ten to forty-nine (10 to 49) packages	3.30 ea.
Fifty (50) or more packages	3.20 ea.

(e) Prices of Package Bees with queens sent by Parcel Post shall be twenty (20) cents higher per package than packages sent by express, plus the postage.

(f) Prices of Nuclei—Express Collect—November 1 to May 31st.

Nuclei with One (1) comb with Two (2) pounds bees net and queen.

One to nine (1 to 9) nuclei	$3.15 ea.
Ten to forty-nine (10 to 49) nuclei	3.05 ea.
Fifty (50) or more nuclei	2.95 ea.

(g) For each additional comb, add fifty (50) cents.

(h) For each additional pound of bees, add eighty (80) cents.

(i) Prices of Package Bees and Nuclei from June 1 to October 31.

The price of two (2) pound packages and two (2) pound nuclei during this period shall be fifty (50) cents less per unit, and sixty (60) cents less per unit for three (3) pound packages and three (3) pound nuclei.

The MINIMUM WHOLESALE PRICES for package bees, nuclei, and queens shall be as follows:

(a) Ten (10%) percent less than the minimum retail prices on 100 to 249 queens, package bees and nuclei.

(b) Fifteen (15%) percent less than the minimum retail price on 250 or more queens, package bees and nuclei

The WHOLESALE PRICES SHALL BE granted to

1. Wholesale Supply Houses handling bee supplies, bees and queens.
2. County and State or other recognized beekeepers' associations.
3. Mail order houses, signatory shippers, and individuals buying 100 or more package bees, nuclei, or queens.

The Bees Do the Work

I satisfactorily remove bees from supers of honey by placing the supers in a dark room with one small window screened and hinged. After a short time they gather on the screen. I release them and each flies back to its own hive. In this way much work is eliminated and no bees are lost or injured. —H. W. Lea.

The Proposed National Marketing Agreement

C. L. CORKINS, Chairman of the National Honey Marketing Agreement Committee of the American Honey Producers' League, has had forwarded to us a long discussion of the proposed National Marketing Agreement which will appear this month at full length in Gleanings. We quote:

"Will it work? That question was significantly placed in the sub-heading of the digest of the proposed National Honey-marketing Agreement last month by one of the bee journals and it is a question which for months has been haunting many of us. Will it work? The answer is **no**—unless, during the coming months, we see the miracle of a mad rush of beekeepers into the folds of the state, regional, and national organizations and their recognition of and loyal subservience to their chosen leadership of such organizations." [We proposed the question "Will it work?" last month when we gave a digest of the entire honey marketing agreement on page 470, December.—Ed.]

Briefly, Mr. Corkins continues to point out, the rugged individualism and self-sufficiency of beekeepers has made organized beekeeping a hard task. Our present national organization, the American Honey Producers' League, is only a shell, rather than the concrete structure it should be. Our state associations are held together by a few who don't know when they are licked. It is doubtful if the sum total of state associations represents more than 10 per cent of the honey production of the country. Even that noble institution, the American Honey Institute, which is so desperately needed, struggles for a mere existence with 99 per cent of the beeekeepers sitting idly by. There is only one chance that beekeepers will become banded together to take advantage of the A. A. A. program. We will try to point out that chance.

The attitude of the A.A.A. office in Washington on a honey marketing agreement is that beekeepers are not well enough organized to do anything about it. The government has forced organization on the basic agricultural commodities but it says to the miscellaneous products, "Here is the law. Take advantage of it if you are sufficiently organized. It's your job, not ours. Write your own agreement, set up your administration and if it suits us, all right."

So, of course, the honey marketing agreement won't work unless the beekeepers are fully organized beyond the point of our present conception. The Agricultural Adjustment Act stipulates that the Secretary of Agriculture may contract with "organizations of producers," not individuals. The honey marketing agreement (see page 470, December) is interwoven with our beekeepers organizations, skeletons though they be.

Our national organization and the marketing agreement committee can get the agreement into shape, get such limited publicity as is possible to those who read, and contact the state associations but there our heads will jam squarely into a stone wall. Why? Because it will take real money to build up our organizations to the point where they can command sufficient production (65%) to sign the agreement or administer it once it is consummated.

Under the New Deal, the government is opening the public purse strings to do the job of organization as a national welfare measure. Look back 17 years and remember who put an artificial stimulus into the beekeeping industry, the pains of which we are still suffering. It is time the government should step into the picture and help us get ourselves out of the jackpot they helped us into.

If we can place at the head of this marketing agreement in Washington any of our well informed leaders and give him enough assistance to work through the Agricultural Extension Service for a year, the job's as good as done. If the agreement works, then the beekeepers and packers can largely keep it going once it is under way.

Can beekeeping bring this to pass? Well, it might try through state associations under the co-ordinated guidance of the American Honey Producers' League with the assistance of the packers, supply dealers and bee publications.

Is it worth while? That's a question for the beekeeper to answer for himself. We can drift as we have been or we can move forward with the national program. If we drift, it will be the old story of the survival of the fittest; or more crudely, the proposition of dog eat dog and the best dog eater wins.

The forward looking program is a program of organized beekeeping backed by Uncle Sam to enforce each of us to live by the Golden Rule, so that every man may have an equal chance of survival. The honey marketing agreement won't sell our honey. It only says we shall sell it like gentlemen."

C. L. Corkins,

Chairman of Marketing Agreement Committee.

Our Cover Picture -- Beehive Mountain

With this number the American Bee Journal starts a series of cover pictures of famous scenes which are likely to be of interest to bee men who dream of far places.

This month's picture is of Beehive Mountain near Lake Louise in the Canadian Rockies. The Rockies have been called the "backbone of the continent" and in Western Canada is some of the finest scenery to be found anywhere. This great range provides a barrier between the plains to the eastward and the rich valleys of the coast region to the west.

Eastward we find the vast plains country of Alberta, Saskatchewan and Manitoba where is some of the finest beekeeping territory in all the world. Most of the honey comes from sweet clover and the yields are such as to be past belief to persons familiar with the ordinary returns from bees in the average eastern locality.

To the west there is a vast area where one range of mountains succeeds another for hundreds of miles. In one of the valleys between the ranges W. H. Turnbull, one of Canada's most extensive beekeepers, manages his large apiaries. Further west near the coast we find a mild climate where beekeeping takes on the character of our own west coast region. Beehive Mountain then may stand for a marker which indicates the boundary between the mountains and the plains, between the east and the west. It is an inspiring sight and any beekeeper passing that way may well stop and enjoy a day at this famous spot.

The Human Puzzle for December

You guessed it! It was M. G. Dadant (Some folks say they can't tell M. G. Dadant from L. C. Dadant but this guessing contest proves that is a myth. Only three thought it was L. C.). Dr. Watson will have to pass the hat to Maurice. Watson had 58 guesses, Maurice 65. Guesses were received from Illinois, Iowa, Missouri, Arkansas, New Jersey, Minnesota, Nebraska, Pennsylvania, Alabama, Tennessee, Louisiana, Wisconsin, Connecticut, New Hampshire, Vermont, Maine, Michigan, Virginia, West Virginia, New York, Ohio, Montana, Idaho, Ontario, Saskatchewan and Mexico; a total of twenty-six states and provinces, and one foreign country. (I see your hat is off here too, Dr. Watson.)

The card from Mexico deserves particular mention because it shows a beautiful hand made design of a bird on a flowering branch in the colors of the southern plumage. It is from Albert Gutierrez Munoz, student of beekeeping and entomology in Chihuahua, Mexico. (Well, Elmer Kommer, up there in Woodhull, Illinois, how do you like the results? Elmer suggested Maurice for this puzzle.)

Maurice was mistaken for Douglas Stover, of Stover Apiaries; W. R. Perry, of Omaha, Nebraska; Fred Lamkin, of Poplar Ridge, N. Y.; and for Frank C. Pellett, Editor of American Bee Journal. Harold Bowers, of Wingarten, Missouri, called him "Melvin Dadant" confusing him in his mind with Melvin Pellett, son of Frank C. Pellett. As just said, there were three guesses that Maurice was L. C. Dadant and from Ivan Whiting, of Roscoe, Illinois, saying "It isn't either L. C. or M. G." so he must have considered it Henry. (Wrong Ivan, sorry!)

The first correct guess was from Emile Snyder, Nauvoo, Illinois (Emile called up at half past ten on December 1st over the phone). The second was Ernest W. Peterson, of Sandwich, Illinois; the third Leo Bentz, of Woodstock, Illinois.

This concludes the Human Puzzles. Many are so interested they do not like to see them end but it is easy to understand that successful guesses are only possible to those who live the closest to Hamilton because of the difference in the time the Journals are received; those at a distance have little chance, although the interest is wonderful. So we substitute something different in "Famous Sayings," the first of which appears this month.

Sweet Clover and White Clover in Nebraska

In the Loup Valleys, Nebraska, white clover yield is limited to low wet land, sub-irrigated soil or to an abundant and frequent rainfall. Very seldom is it found growing anywhere else. Sometimes it does grow nicely on well watered lawns.

Sweet clover is found where the seed has been sown on any soil suitable for grains or forage crops. Sweet clover will cease to bloom during a dearth of moisture but will come back into bloom abundantly when rainfall increases. Sweet clover is naturally more abundant and prolific on sub-irrigated soil.

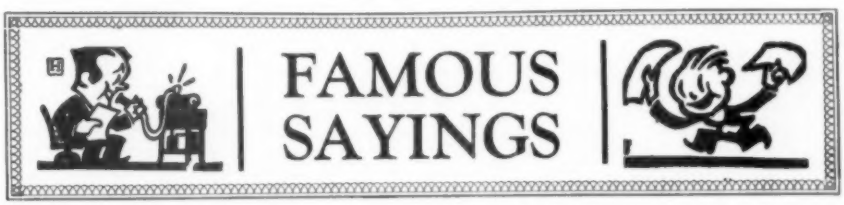
J. H. Sturdevant,
Nebraska.

Bees Get Him Out of Jail

Here is a clipping from the Omaha Daily Journal and Stockman of November 15th, reporting that Walter Weigert of Fond Du Lac, Wisconsin, who was serving a sixty-day sentence for reckless driving was given a three-day reprieve by Judge H. M. Fellenz to put his bees in winter quarters. Weigert then returned to jail to serve the remainder of his term.

I have a few colonies of bees and intend to keep more. If they get men out of jail, they may be able to get us out of the financial mire.

A. J. Lawrence,
Nebraska.



Who Said It?

Beekeeping literature is graced with a number of famous sayings which are well known to beekeepers who read the literature of their profession. We have chosen a few of them to make into jumbles.

The first one, this month, given below, contains a famous saying which has become a classic in beekeeping. To one not a beekeeper, it means very little but to the beekeeper it has a world of meaning. The first letter of each word in the saying is a capital letter in the jumble. Set down the capital letters. They form the beginning of each word to give you your clue.

When you have worked out the saying, write a letter not to exceed 300 words, telling about the origin of the saying and the man who made it. The best letter, not to exceed 300 words, will be printed in the February number and the winner will have his choice of any bee book published by the American Bee Journal. You will find a list of these books in the advertisement on page 6.

When you send your letter, suggest some other Famous Saying which will be well known to beekeepers.

Famous Saying for January.

il **M** *o* **O** *yt* **A** *n u e r* **HO** *s o u e n o* **H** *s f i l*

Happy New Year

With this issue we start a new volume of American Bee Journal to reach our readers at the beginning of the new year. Looking back over the past twelve months we are impressed with the fact that conditions on the whole are much better than a year ago. Honey prices are better and beekeepers are far more optimistic. There are fewer people unemployed and less suffering is apparent among the unfortunate.

During the past twelve months we have changed our political administration and undertaken some public enterprises quite foreign to previous public policy. It is probable that this is the start with public experimentation which will carry us far afield before we are done. Fortunately there is evidence of a very real desire to improve the lot of the common man. Mistakes will be made, of course, but they will be corrected. Certainly the low state in which we found ourselves required drastic efforts at alleviation. While our problems have not yet been solved, at least we are trying to solve them and there is every reason to expect that the year on which we are just now entering will carry us far on the road to economic recovery.

One great lesson that has come from the depression is that as was said by a great teacher of old, "No man liveth to himself." We have found that if any man fails to get his fair share of the income others must suffer along with him. We are learning to be more considerate of each other, more helpful to those in need and to have more sympathy for those less fortunate. Out of this experience we may expect to build a better country and better communities, a better home life and stronger individual characters. Perhaps it will be worth all it has cost. Yes, times are better and will be better still. Again we repeat, "Happy New Year."

The Package Code

The Southern Conference and the formal hearing on the Queen and Package Code are over. The Code itself and its attendant prices are virtually in operation.

What will be the results? Naturally the producer in the North will pay higher prices than a year ago. Some who sold their honey early, or who had small yields will feel that the prices are higher than they can afford to pay. Others take advancing prices as a foregone conclusion.

We found the Southern shippers extremely fair in all of their conferences. Undoubtedly they have not been making expenses in the package business. This can be readily seen by the fact that they are 90 per cent in accord on this code. Of the 250 odd shippers, large and small very few protested. Could we find a more unanimous feeling on the part of a similar number of producers?

Every criticism of the code as presented by the buyers was carefully considered. Many changes were made. One important one was in concessions to the large buyer. By consulting prices as given on other pages of this journal you will notice that the 100 package buyer gets a 10 per cent reduction, while the 250 package buyer gets 15 per cent. This change alone overcame the objection of a majority of the critics.

The buyer will pay more for his bees. What will he get in return? I can see a number of compensatory things. The fair practices parts of the code have not been closely enough scrutinized by the reader. There should be an end to the underweight, underquality packages. **And** delay in delivery should be largely removed. Ten days is the limit allowed on shipment of bees, subject to cancellation by the buyer. Millions of pounds of honey have been lost in past years through package shipment delays. And we do not mean this as a reflection on most of the shippers, who have been very prompt. But those long delays were frequent enough not only to seriously damage some of the northern buyers, but to give a black eye to the shipping industry. With the code in operation, the shipper will consider seriously before booking so many orders that he incurs long delays which may mean the revoking of his license.

But to me the greatest argument in favor of the code and of advancing prices is that with these safeguards, we will continue to have a package industry. No man can afford for long to operate at a loss. And when the shippers unanimously tell you that they have not been able to renew equipment, that depreciation and interest have not been earned, one is not slow to realize that such an industry is bound to dwindle under such conditions. On the other hand, the demand in the North has increased, and the South is the only source of supply.

An Important Article

The article on controlling granulation in honey, on page 12 of this issue, should be read by every person who puts up extracted honey for the market. Iowa State College appears to have made a real contribution to our knowledge of this subject. It should be noted that this method can only be used in connection with the refractometer to determine the moisture content and hence is not to be undertaken by anyone who is not properly equipped.

There is also the question as to whether any adjustment of the moisture content will be permitted under the pure food law. This remains to be determined by the authorities charged with the enforcement of the law. Regulation 11 provides "No substance may be mixed with a food product which will reduce or lower its quality or strength."

If the process comes up to expectations it is probable that the Pure Food Administration will permit its use under proper restrictions which will safeguard the consuming public. This is all that the industry can ask or expect. In the meantime we feel that these workers are to be congratulated on a piece of good work which promises a solution of one of the most difficult problems facing the honey packer. We hope that the investigation will be continued until every problem in connection with it is solved and that the government will find the proper means for putting it into common use.

The authors have suggested that the proper market standard for honey will be its sugar content and that the time will come when honey will sell on this basis just as cream is sold by measure of its fat content.

Honey Recipes Again

Our attention is called to the fact that many failures with honey recipes are due to mistakes in measurement. In the publications of the American Honey Institute attention is called to the fact that when honey is substituted for sugar the amount of liquid would be reduced one-fifth cup for each cup of honey used. "A cup of honey weighs 12 ounces, of which about one-fifth is water. A cup of sugar weights about 7 ounces. Honey then contains a little more sugar than the same measure of cane sugar." In a recent issue we called attention to the fact that many failures come from lack of understanding on the part of the user of the particular flavor of honey used.

It is quite necessary that beekeepers appreciate the difficulty ordinarily experienced in the use of honey so that they can pass on proper information to their cus-

tomers. In measuring honey with a recipe calling for oil or fat, the latter should be first measured and then the honey should be measured in the same cup without washing as it makes a great deal of difference in the way the honey comes out. Often a cup of honey is measured and two or three tablespoons of honey remain in the bottom of the cup. Then the homemaker complains about honey being difficult to handle. If the beekeeper understands these points himself and calls the attention of his customers to these, it will make considerable difference in the interest his customers have in honey.

To Burn or Not to Burn

The new bulletin on treatment of American foulbrood, published by the U. S. Department of Agriculture at Washington, advises the killing of the bees and burning of the entire contents of the hive as the only treatment to be recommended.

Since such a bulletin circulates among all classes of people and must be "fool proof" if such a thing is possible, it is perhaps the only advice which could wisely be offered. There are many very capable beekeepers who have come to the conclusion after much experience with the disease that burning is the cheapest as well as the most effective remedy.

There are many, however, who are successful in saving bees and equipment by means of shaking the bees and disinfecting the combs. The question is whether it pays to do so. Reappearance of the disease is so common that one must expect a second treatment to be neccessary in many cases. Much depends upon the circumstances of the individual and the requirements of the inspection service of the state in which one lives.

Changing Conditions

There is serious complaint in some localities of competition from honey produced in other sections where yields are higher and costs of production are correspondingly reduced. One beekeeper writes that the average yield in his locality is not much above forty pounds per colony. He states that the markets in which he has formerly sold are now supplied with honey from localities where the average yield is three times as much and where honey is sold profitably at prices far below his ability to meet.

Modern transportation and distribution is bringing about a similar condition in all lines of human activity. The New England farmer cannot raise corn on his small and rocky fields in competition with the mid-western grower who gets a much larger yield in large fields cultivated with modern machinery capable of caring for the big fields common to the west.

The northern gardener who raises winter vegetables under glass can hardly meet the competition of the crops from South Florida or from California where they are grown in the open. In the natural course of events, crops will be grown where they can be produced most economically. Honey can be produced in the sweet clover regions at prices which will compete with sugar and there is every reason to expect much larger production in that region in the future.

Deep Combs for Wintering

James Harbison, father of beekeeping in California was probably the first to call attention to the fact that the shallow frame used in the Langstroth hive often results in winter losses. Concerning the condition of his bees in these hives in 1857 he wrote: "I expected to find the desideratum long sought by apiarists. * * * In this I was doomed to disappointment, as most of the bees that had been put into them had died of starvation, they having eaten all the stores from the bottom to the top of the hive in the center of a diameter equal to the size of the cluster, leaving an abundance of stores still within the hive, but owing to the severe cold the bees were unable to reach them. As an offset to this, I found the bees in my old improved hive were strong and vigorous, proving most conclusively the superiority of a hive deep from top to bottom over low flat ones."

The present day practice of wintering in two-story hives overcomes this objection to some extent. Winter losses, however, continue heavy where bees are wintered outside in shallow hives.

A Prophecy Fulfilled

In the first number of American Bee Journal issued in January, 1861, Samuel Wagner the editor, in commenting on Langstroth's invention of the movable frame hive said:

> "It is opened from above, and any frame may be removed or replaced at pleasure, so that the beekeeper has perfect control of the frames and the bees. Nor is there any conceivable advance or improvement in bee culture, to which it is not completely adapted."

After seventy-three years we must recognize that Wagner was right and that there has been no advance or improvement in our industry to which the Langstroth hive has not been adapted. Larger hives than those in use at that time are giving more satisfactory returns in many cases, but they are simply an adaptation of the Langstroth principal to modern needs. Langstroth made a fundamental discovery and all our present day practice of commercial honey production rests on the foundation of the bee space and the top opening hive. It was the most important discovery in the history of beekeeping.

Unfortunate Publicity

A well known magazine, Writer's Digest, in a recent issue has suggested that the news items about Death Camas, a poisonous plant common to the west, might furnish a background for a story. The suggestion for the plot begins with the bees and ends with the death of the persons eating the honey. Certainly such a piece of fiction if given wide reading might do untold harm to the beekeeping industry. It would create an entirely false impression in the minds of the readers. Death Camas might well be the source of some loss to the bee men through the poisoning of their bees but the possibility of human death through eating of the honey is something else again. If any such death ever occurred no evidence of it has come to us. Naturally the bees which gather the poison die, but they are not able to pass enough of it on to endanger persons eating the honey stored in the hives. Poisoned bees do not live to store poison honey in quantity sufficient to endanger human life.

Apparently the ripening of the honey dissipates the poisonous element since most cases of reported poisonous nectar are found to be harmless after the honey has been sealed and ripened. The beekeeping industry has suffered greatly from such ill advised publicity.

We Need the Middle Man

Too many bee men fail to realize the service which is rendered by the middle man in marketing honey. Food products are moved through a well organized group of jobbers, wholesalers and dealers. If we offer our product through them they are able to move a large amount and pay cash. If we try to sell direct we find hard work to move even a small crop since we must find a new customer for each small quantity. Grocers depend upon the wholesaler for their goods and in the large cities it is difficult to reach the consumer through any other source.

There are millions of consumers in American cities who never see or hear of honey because it is not carried on the shelves of the grocery stores where they buy their food. The only way to reach this class of consumers—and it is a very large one—is through the regular channels of trade.

Serious damage to the honey markets in some cities has recently been reported because beekeepers after selling the jobbers covering that territory went directly to some of the large customers of these same jobbers and sold them honey at the same price which the jobbers had paid. It is quite natural in cases of this kind for them to push some brand of syrup which protects the trade in its fair profit.

Honey Granulation Controlled by New Method [1]

By Ellis I. Fulmer, Wouter Bosch, O. W. Park and J. H. Buchanan.

OUR MARKET, unfortunately, demands honey that is not granulated and remains in a stable liquid form. It is a frequent experience among honey bottlers and distributors to have shipments of honey returned because of granulation and it is costly to heat and repack. Here is a method of granulation prevention which offers a way out, without altering the natural content of honey. It requires care and understanding, but in the hands of those properly equipped it should be quite useful.

GRANULATED honey always has been and probably always will be a drug on the American market. In Europe, we are told, no objection is raised to such honey and there are people in this country who prefer their honey in the crystallized form, but in general, the American housewife wants hers liquid and she will have it that way or not at all. The well known but disastrous result continues to be underconsumption of one of nature's finest foods.

A few honeys rarely or never granulate, but the great bulk of the nation's crop requires special treatment if it is to be kept liquid even a few months. Two methods have been practiced with partial success. They are: Heating; and blending combined with heating. The degree of success in delaying granulation by either of these methods varies widely, but on the whole, neither has proved adequate to the needs of the trade. This is reflected in the refusal of many large mercantile concerns to handle honey because it so often granulates on the grocer's shelves and has to be taken back and reconditioned before it is again salable. The lack of a satisfactory method for controlling granulation in honey has resulted in untold losses to the beekeeping industry.

Studies on the control of granulation in honey were undertaken by the Iowa Agricultural Experiment Station about three years ago, at the request of the Iowa Beekeepers' Association. In December, 1932, a progress report (2) was made before that Association at its annual convention at Marshalltown, Iowa. Data presented there indicated that at least two different factors are involved in the phenomenon of honey granulation. These factors are: the levulose-dextrose ratio, and the percentage of moisture. (In explanation of the former, it may be said that the levulose-dextrose ratio simply represents the relative amounts of levulose and dextrose, and may therefore be expressed as a decimal. For instance, if there is 30% more levulose than dextrose, the ratio would be 1.3).

For some years it has been generally considered that the higher the levulose-dextrose ratio, the less the tendency toward granulation. When the twenty-odd types of honey studied by us were grouped as to rate of granulation into the three classes, rapid, slow and rare, it was found that, in general, the higher the levulose-dextrose ratio, the slower the rate of granulation, but there were marked exceptions. It was noted also that, in general, high moisture content favored stability; however, there were exceptions here also.

Each of the above generalizations suggested a possible remedy. The former indicated that a honey having a low levulose-dextrose ratio might be prevented from granulating by adding enough levulose to raise its levulose-dextrose ratio to the required level. The latter pointed to a proper adjustment of the moisture content as a likely means of preventing granulation. Both levulose and water are natural ingredients of honey so their use would not involve the addition of any material foreign to honey.

From a chemical viewpoint, honey is fundamentally a supersaturated solution of sugar in water. Supersaturated solutions in general are unstable and crystallize readily, but may be brought to a condition in which granulation will not occur, by sufficiently increasing the percentage of solvent which, in the case of honey, is water. Hence it was to be expected that a sufficient increase in the moisture content of any given honey, would cause it to remain liquid indefinitely. From this point of view, it would remain to be determined whether the amounts of moisture which must be added to accomplish this purpose would be excessive. Any material increase in moisture content undoubtedly would thin out the honey, thereby decreasing its body and increasing the danger of fermentation. The moisture content, therefore, should not exceed 20-21% for practical purposes.

Extensive tests were conducted to determine the effect of various other substances upon granulation when added to different kinds of honey. Chemicals used in these tests included gelatin, gum arabic, sodium carbonate, trisodium phosphate, sucrose (cane sugar), and dextrose (glucose). Each chemical of this list was chosen on account of a known specific effect upon crystallization in general. Results obtained with these chemicals were significant, verifying the reasoning back of their choice, and will be considered in a later communication.

Influence of Levulose-Dextrose Ratios Upon Rate of Granulation

The levulose-dextrose ratios of the several honeys were changed at will by adding varying amounts of either levulose or dextrose as required to produce the ratio desired. These sugars were added in solutions of such strength as would not change the water content of the honeys to which they were added. After the addition, the samples were heated for three hours at 122° F. This heating process accomplished not only the usual pasteurization but also brought into solution any sugar crystals that might act as nuclei in starting granulation.

1. Journal Paper No. J134 of the Iowa Agricultural Experiment Station, Ames, Iowa. Project No. 355.

2. Bosch, Wouter, E. I. Fulmer, and O. W. Park, 1933. Studies on honeys and nectars. (Iowa) St. Apiarist Rept., 1932:52-56.

TABLE 1.—GRANULATION STATUS OF SEVERAL HONEYS, AFTER 14 MONTHS, WITH VARIOUS LEVULOSE-DEXTROSE RATIOS.

	Not seeded with dextrose					Seeded with dextrose				
Honey	Fi32	Or32	SC32	T32	WCl 32	Fi32	Or32	SC32	T32	WCl 32
Percent Water	16.3	16.5	15.3	15.1	16.8	16.3	16.5	15.3	15.8	16.8
L/D	1.14	1.20	1.04	1.70	1.11	1.14	1.20	1.04	1.70	1.11
0.90	...	1	...	...	...	...	3	...	...	...
1.00	2	0	...	0	0	5	2	...	1	...
1.10	1	0	0	0	0	2	1	2	0	...
1.20	0	0	0	0	0	1	1	2	0	...
1.30	0	0	0	0	0	0	0	1	0	2
1.40	0	0	0	0	0	0	0	1	0	0
1.50	0	0	0	0	0	0	0	1	0	0
1.60	...	...	...	0	0	...	...	...	0	0
Orig.	...	...	...	...	...	2	1	1	0	2

Fi—fireweed T—tueplo Or—orange WCl—white clover SC—sweet clover
The number 32 signifies honey of the 1932 crop.
L/D refers to the levulose-dextrose ratio.

Two series of samples were prepared as above for each kind of honey. After cooling, a small amount of dextrose crystals was added to each jar of one series. This procedure is called "seeding" and is for the purpose of hastening crystallization. The other series was not seeded. The following honeys were so studied: basswood, buckwheat, catsclaw, cotton, dandelion, eucalyptus, fireweed, gallberry, horsemint, mesquite, orange, palmetto, sage, sourwood, sweet clover, tupelo and white clover.

In table 1 are given data on the status of five of these honeys after fourteen months. These are the honeys in which the levulose-dextrose ratios were such as to show some differences in rate of granulation. The degree of granulation is expressed arbitrarily in terms of the numbers 1, 2, 3, 4 and 5; number 1 representing the first evidences of granulation and number 5, complete granulation. In the cases of fireweed and orange honeys, the effect of changing the levulose-dextrose ratio is apparent in the unseeded as well as in the seeded series, while with the sweet clover, tupelo and white clover honeys, the effect is apparent only in the seeded series. Thus the use of the seeding method to hasten results is shown to have an advantage.

Tupelo honey is one of the most stable types studied, having a water content of 15.1% and a levulose-dextrose ratio of 1.70. This is the highest levulose-dextrose ratio of any of the honeys we have examined. It is very interesting, therefore, to note the beginning of granulation at the levulose-dextrose ratio of 1.00 in the seeded series. On the other hand, it may be noted that sweet clover honey which normally granulates very quickly, has remained liquid for fourteen months when its levulose-dextrose ratio was raised only from its original 1.04 to 1.10, as shown in the unseeded series; while in the seeded series, with a ratio of 1.30 or above, granulation has not progressed beyond its initial stage in more than a year.

It is evident, then, that for a given honey, the rate of granulation can be altered by changing the levulose-dextrose ratio, although, as has been stated before, there is not always a direct correlation between this ratio and granulating tendency.

Influence of Moisture Content Upon Rate of Granulation

As noted previously, the rate of granulation of honey is, in general, less with increasing moisture content. From the data presented in our previous report, the lowest water content was 9.9% for cotton honey, while three of the honeys ran 20.0% or above: dandelion, 20.0%; gallberry, 20.5% and mesquite, 20.6%. The average water content of the honeys examined was 16.7%.

The above analyses were obtained by the usual long and tedious method of drying the samples on sand in a vacuum. The authors have since then developed a very rapid procedure for the determination of the water content of honeys, the details of which will appear in a subsequent issue of this journal. The procedure involves the determination of the refractive index of the honey by means of the Abbe refractometer. The water content is then read from a table showing the relation between refractive index and the water content of honeys as determined by the vacuum drying method. By means of the new method, the moisture content of honey can be found in a couple of minutes, instead of 24 hours as was formerly the case.

In studying the influence of water content on granulation, varying amounts of water were added to each honey and the samples heated for three hours at 122° F. One series was seeded and the other was left unseeded, for observation. The following honeys were so treated: alfalfa, basswood, bitterweed, buckwheat, catsclaw, cotton, dandelion, eucalyptus, fireweed, holly, horsemint, heartsease, heartsease with Spanish needle, mesquite, palmetto, sweet clover, and white clover.

The influence of water content on the granulation of cotton honey is especially interesting. As noted previously the water content of this honey, as received, was 9.9% with the low levulose-dextrose ratio of 1.07. As would be expected, it was exceedingly unstable. Various amounts of water were added and the honey heated as above described. After fourteen months there are a very few crystals on the bottom of the sample containing 17.6% water and there is no evidence, whatsoever, of crystallization at 19.6% water.

Of honeys having average water content, sweet clover honey was the least stable; its water content was 16.8%, its levulose-dextrose ratio the low value of 1.02. In table 2 are given data showing the status of this honey, with various water additions, up to and including a period of twenty-two months. The data show clearly two facts; the successive additions of water slow down the rate of granulation; the heating alone will not accomplish this effect, for all the samples had been heated 3 hours, at 122° F. As stated previously, the granulation value of 1 may indicate only a slight degree of crystallization or, at most, a visible deposit. It should be noted also that in samples

TABLE 2.—GRANULATION OF SWEET CLOVER HONEY [SC 31 (32)] TO WHICH 1-10% OF WATER HAD BEEN ADDED.

Original water content—16.8. Levulose-dextrose ratio—1.02.

Percent Water	Months											
	1	2	4	6	8	10	12	14	16	18	20	22
17.7	0	2	4	5	4	4	4	5	5	5	5	5
18.7	0	1	2	2	2	2	2	2	2	2	2	2
19.7	0	0	1	1	1	1	1	1	1	1	1	1
20.6	0	0	0	1	1	1	1	1	1	1	1	1
21.5	0	0	0	0	1	1	1	1	1	1	1	1
22.5	0	0	0	0	1	1	1	1	1	1	1	1
23.3	0	0	0	0	1	1	1	1	1	1	1	0
24.2	0	0	0	0	1	1	1	1	1	1	1	0
25.0	0	0	0	0	0	1	1	1	1	1	1	0
25.9	0	0	0	0	0	1	1	1	1	1	1	0

Note—A rating of 1 means that granulation is limited to a thin film of small crystals or perhaps a few large ones on the bottom of the jar, which does not affect the general appearance or salability of the product. Complete granulation is indicated by a rating of 5.

having a moisture content above 18.7 percent, granulation has not progressed beyond a rating of 1 in almost two years. And we have been assured by extensive commercial bottlers that honey in this condition is not objectionable to the trade. It should be emphasized that, of all the honeys studied by us, granulation was most difficult to control in the case of this particular honey.

It is evident that for each honey there is a water content which will just prevent granulation. None of the honeys studied by us showed more than a trace of granulation at 20% moisture content, while many of the honeys remained stable at lower values. This maximum moisture content of 20%, required to stabilize the most rapidly granulating honeys, is within the range of water content of natural honeys. This concentration does not seriously affect the body of the honey nor is it high enough to increase the hazard of fermentation, provided the honey is properly pasteurized.

The procedure used for preventing the granulation of honey consists in the following steps: First—determine the moisture content of the honey. Second—adjust the moisture content to the desired value. Third—put the honey nor is it high enough to teurize for three hours at 122° F.

In summary, attention may be called to several important facts in connection with the procedure just outlined. First—even 20% moisture is well within the range found in untreated natural honeys. Second—honey containing as much as 20% moisture shows a very satisfactory body, and, in reality, is more satisfactory for table use than honey that is so thick it will not pour readily, and strings all over everything when a spoon is used in it. Third—the pasteurizing process (heating three hours at 122° F.) not only helps to prevent granulation, but also eliminates the danger of spoilage from fermentation. Fourth—no change in color or flavor is produced by the heat treatment used in these experiments.

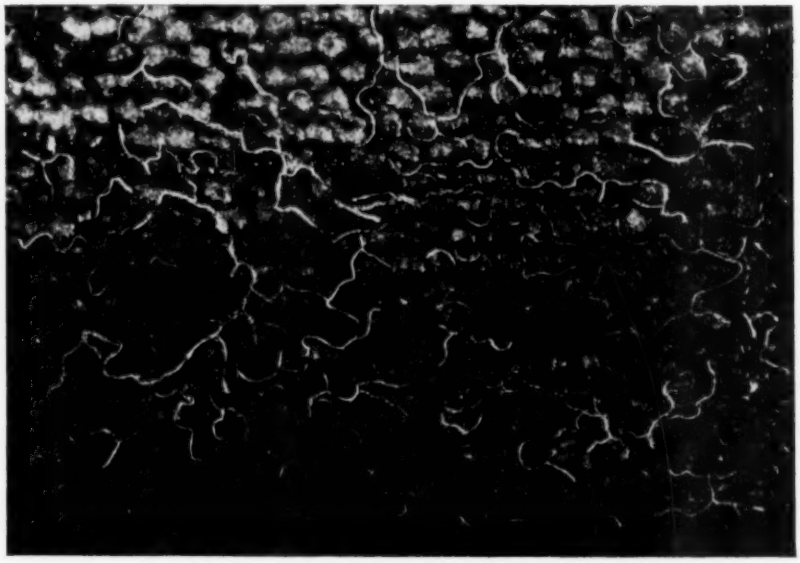
Current Comments

More than the usual number of stories about bees and honey are appearing in current publications. "Business Week" for November 11, had a two column story about bees and honey and the December "Country Home" has a long story about Herman Rauchfuss in which he points to bees as a fine example of cooperation.

Rauchfuss is certainly a good subject for a bee story since he has been an unusually successful honey producer and has spent a long life in the apiary.

Peculiar Work of Wax Moth Larvae

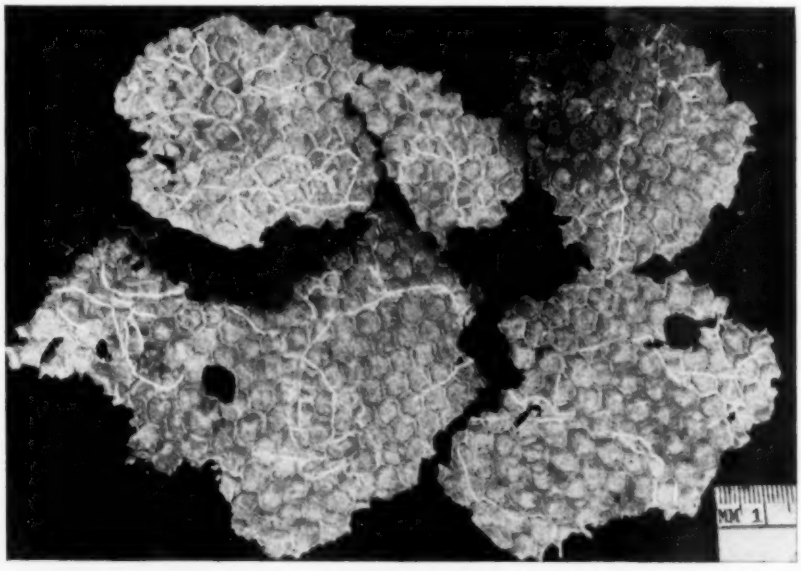
By G. H. Vansell, Associate Apiculturist,
U. S. Department of Agriculture,
Bureau of Entomology.



Tunnels of the wax moth in sealed honeycomb. The picture is poor. The work is not so conspicuous as indicated.

SMALL tunnels under the cappings of sealed honey have come under observation for a number of years in the vicinity of Winters, California. Each fall, at the time of the last extraction, this characteristic work was seen rather abundantly in combs of a few of the good Italian hybrid bees. The photographs of **Braula coeca** tunnels, published in Gleanings in Bee Culture 54:437, 1926 and 55:86, 1927, looked so similar to these tunnels that the presence of the bee louse was strongly suspected. Examination of the queens and the bees as well as the tunnels failed, however, to reveal it.

In September, 1933, tunneled extracting combs full of sealed honey were removed from a colony and placed in a cheesecloth cage for daily observation. Very small lepidopterous larvae were removed from the tunnels, placed in individual vials, and supplied with various foods, including dried fruits and bee comb. At



Inside view of cappings, showing the tunnels clearly. Note the size by comparing with the rule.

this stage the larvae were thought to be some of the dried fruit worms so common about the packing and drying yards. Observation, however, soon revealed that their preferred food was the bee comb materials. These larvae subsequently proved to be specimens of the wax moth, **Galleria mellonella.**

These moth tunnels are constructed between the cappings and the honey, as are those of the bee louse, according to the literature. It is unsafe to diagnose the insect work from general appearances alone. A collaborating observer, who had seen the work of **Braula,** stated that these tunnels were undoubtedly its work and that examination of the colonies would reveal the louse. His subsequent cooperative efforts, however, failed to do so.

A surface view of the tunnels in the sealed honeycomb is shown in figure 1. Some of these tunnels were at least three inches in length. Figure 2 shows the inside surface of the cappings, which were sliced off with a hot knife. The honey was dissolved in warm water and the photograph was made after the cappings had dried in warm air.

Fighting the Insects

A very interesting new book entitled "Fighting the Insects" has recently been issued by the MacMillan Company of New York. It is the life story of Dr. L. O. Howard, long the chief of the Bureau of Entomology in the United States Department of Agriculture. While the author gives a rather intimate glimpse into affairs of personal interest at times, the story in the main confines itself to his official work in dealing with insects.

Probably there is no man living who has the wide acquaintance among leading entomologists of the world than has Doctor Howard, and since his entire active life has been spent in the study and control of insects he has a vast fund of information on which to draw.

While the division of bee culture was under his supervision for many years, the Doctor has but little to say about bees and beekeepers. Apparently he regarded entomology as a means of defence against insect enemies rather than a productive industry. He does, however, deal at length with the attempts to establish the culture of the silk worm in America.

One who wishes to become acquainted with the doings of the entomologists will find this a very interesting book and those who like biography will find the story worth while. It is rather a bulky volume of 334 pages and sells at $2.50 to be had from this Journal or from the publishers.

The Giant Lily of Sumatra

By John H. Lovell, Maine.

A giant lily, six feet tall, not including a stem several feet in length. Beccari was surprised!

A LITTLE over fifty years ago, in August, 1878, Odoardo Beccari, a Florentine botanist, made a journey through New Guinea, Sumatra, and East Africa. The flora of Sumatra is remarkable for a great variety of trees, which vie with each other in stature and beauty, and also for strange herbaceous plants. While searching for new plants Beccari found in the forest near Ajer Mantcior a gigantic lily, six feet tall, not including a stem several feet in length. As it towered above him he must have felt some trepidation in picking a bloom much larger than himself, and been not a little puzzled as to how it could be transported to Europe. It was however safely brought home and he gave it the somewhat formidable name of **Amorphophallus titanum,** but it may be called in English the titanic arum lily.

This great lily belongs to the Arum Family, or the Araceae, which also includes such well-known New England flowers as the calla lily, familiar as a house plant, the skunk cabbage, and jack-in-the-pulpit, widely distributed throughout the entire eastern United States. The so-called flowers of all these plants is not a single flower, but a cluster of flowers, or an inflorescence. It consists of a variously colored leaf folded into a sheath or cup, known as the spathe, in the center of which is a slender club, called the spadix, bearing on its base many small flowers.

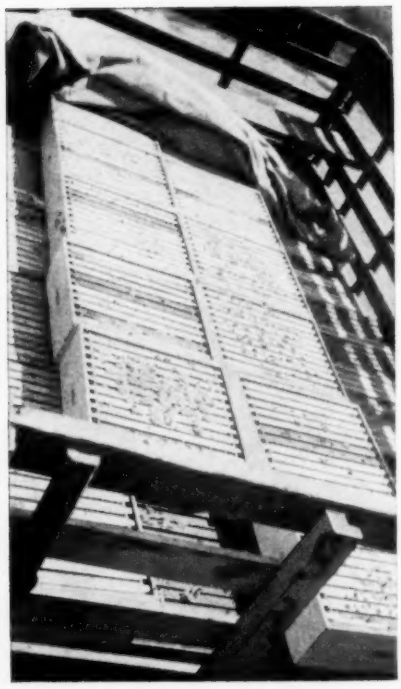
The leaf forming the protecting sheath, or spathe, of the great arum lily is bright green on the outside, with a white tube, but on the inside it is a dark wine-red with a bluish sheen. It has a diameter of three feet and its margin is conspicuously toothed. In the center of this cup there rises a cream-yellow colored club, called the spadix, which is six feet in length, on the base of which are many small flowers. A little child might easily be placed in this great bell.

The other dimensions of this plant are equally large. The leaf-stalk is ten feet long and the blade, which is umbrella-like is forty-five feet in circumference, rising from a bulb-like tuber, five feet in circumference. When aften ten years one of these plants bloomed at Kew Garden, London, in 1890, it was the sensation of the season.

The pollination of the flowers remains to some extent a matter of conjecture. It might be imagined that it was visited only by the largest insects, or by birds. The spathe or the protecting sheath opens in a single night and exhales the odor of decaying fish, which in Sumatra, Beccari noticed allured carrion flies and small beetles.

There are several other species of this group or genus which are cultivated in greenhouses. Stanley's washtub, **A. campanulatus,** from the East Indies, grows from a tuber weighing eight to ten pounds, shaped like a flat cheese. The spathe is two feet broad, colored red-purple, spotted with white lower down.

The best known species in American gardens is the devil's tongue or snake palm from Cochin, China. It blooms in early spring before the appearance of the leaves. The spathe is rose-red, resembling a calla lily, with a long, slender dark red club, three feet in length. The much divided leaves have the outline of an umbrella and are four feet across. Many of the flowers of this great family, which is very abundant in the tropics, have a repulsive odor and are pollinated by flies.



Making the Most of a Good Honeyflow

An interview with

Newman I. Lyle,

past-president
Iowa Beekeepers' Association.

By G. H. Cale.

The title picture shows the top of a load of bulk comb supers, ready for the trek to market. Ten thousand pounds!

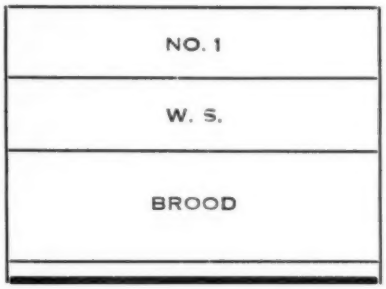
Right below, a yard that turned out a per colony average of 200 pounds of bulk comb. The Getting yard. Not bad. Some of the hives are ten frame. Some Modified.

GET out your map of Iowa and find Sheldon; it's in O'Brien County, northeast of Sioux City. Just a wee bit northeast of Sheldon is the little town of Ritter and right handy to the freight office, railroad station and general store (that is all there is to Ritter) lives Newman I. Lyle, past-president of the Iowa Beekeepers' Association. Most Iowa beekeepers know Lyle but only a few are acquainted with his beekeeping methods which are unusual enough to be of interest.

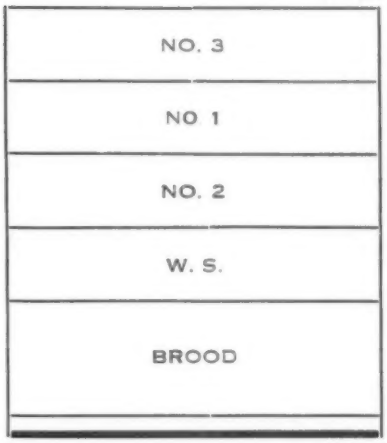
Lyle's right-hand helper is Mrs. Lyle, as you can see by the picture. They usually work this way, side by side. When I visited them they were both down in the basement as that was the coolest place they could get on a July day. There they were sitting at this foundation wheel, comfortably putting surplus foundation in shallow frames for supers used in bulk comb honey production. For Lyle specializes in this practically to the exclusion of any other kind of honey.

He likes to produce bulk comb honey largely because he has a fair market for it and it is more interesting to him than the production of extracted honey. It requires less equipment and since his market takes the supers as they come from the hives and takes the job of handling honey entirely off his hands, it gives him a short year and considerably less labor than would be necessary in the production of either comb or extracted honey. For him this is an unusually favorable situation and Lyle makes the best of it.

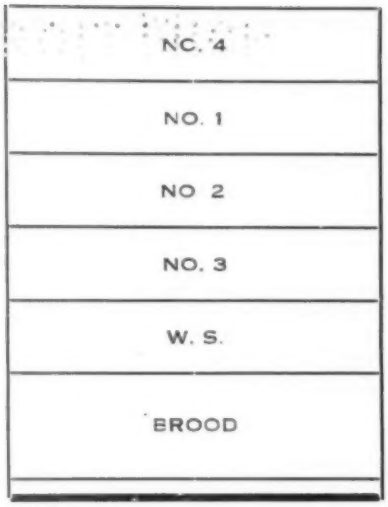
Lyle and his partner (Mrs. Lyle) putting foundation into shallow frames with the wheel they devised for the purpose. A stove of heated wax sets at Lyle's left out of the picture.



Colony in early flow with first super.



Second supering.



As supers continue.

He uses the Modified Dadant hive and super, although some of his bees are still in ten-frame hives. Last year, 1933, his average production was about 150 pounds per colony of bulk comb honey from 300 colonies. He has worked out a nice system.

Let's see how he does it. Bees are wintered outdoors and in the fall as near as possible, every colony is in the pink of condition for bees, queen and stores. Usually a shallow super of honey is left above each colony and the colonies are grouped in three's for wintering with tar paper to hold the packing about the hives, tied down with binder twine and fastened with laths. It is a method in common use in Iowa. Apiary locations are well chosen for windbreaks, warmth and winter protection. His wintering is ideal.

In the spring when the weather is suitably warm the shallow super is placed under the hive body so that if the queen has established a brood nest there, she soon passes up into the deep combs and the bees carry what honey may be left in the shallow super above to the brood nest where it stimulates brood rearing and the super becomes empty of both stores and brood. It may then be returned to the top of the hive to be refilled again. This super is considered a permanent part of the equipment of each colony.

Lyle pays particularly close attention to his queens and establishes in each apiary from ten to a dozen nuclei making one Modified Dadant body into about three nuclei with separate entrances, using the regular full depth Modified frames. He buys queens from southern breeders and introduces them to these nuclei to test them out and rejects every queen which does not do a number one job of egg laying. As fast as queens in the producing colonies show the least signs of failing, they are taken out immediately and an entire nucleus from one of the prepared nuclei colonies is introduced. This is usually placed in the center of the brood nest and the combs removed are put back in the nucleus later to receive another queen which he may have with him on that day or which may come in a later mailing from the South.

Mrs. Lyle keeps the records carefully and any queen showing exceptional ability in honey gathering or in brood production is selected as a breeder and shipped back to the South so that another season Lyle may purchase daughters of this particular stock. In this way the job of rearing queens is taken off his hands, yet he has all the advantages of a close record from the production of his own yards.

Lyle's consistent yields of fine honey and his evenly supered yards testify to the efficiency of this method of maintaining production through proper attention to quality of the queens.

In producing bulk comb honey in this way it is necessary to keep well ahead of the needs of the bees in a sweet clover location where the flow is rather constant over a month or six weeks' time. Sometimes it lasts almost until frost and at other times it may end during the middle or late summer. Supers must be prepared well in advance and must be given to the bees before they are crowded and show need for them.

The method of putting on the supers is shown in the diagrams. The first super marked WS is for winter stores and remains with the colony constantly; super No. 1 is the first bulk comb honey super given to the bees and may contain some bait comb which, however, must be clean and suitable to make quality honey; the second super is given underneath No. 1 and at the same time the third super placed on top. When more room is needed the third super is placed at the bottom, the fourth super on top and so on through the season, care being taken not to put on too many supers so that there will be a large quantity of unfinished honey. At the end of the flow it may be necessary to exchange supers in the yard to make sure all the honey is finished up over colonies which are still doing a good job of storing so that at the end of the flow supers well finished and complete may be brought in for loading.

The wheel shown in the picture makes it easy to put the foundation in the frames. Surplus foundation is used, Mrs. Lyle puts the foundation in the frames while Mr. Lyle pulls a frame around in position to fasten in the sheet with hot wax. Together they can work with great rapidity.

The picture opposite the heading shows a load of supers on a truck ready to go to market where the honey will be handled to suit the packers. Later the supers are brought back to be used again, after being cleaned, for the next season's crop.

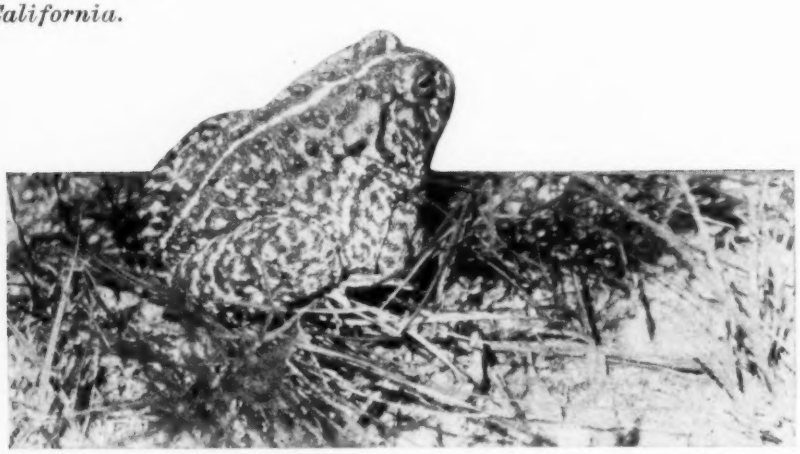
What Is the Unknown Factor?

Allen Latham in Gleanings, mentioned the unknown factor in queen rearing. It brings to mind current history in Nebraska. The past season was an exceptional one with very little swarming and with very few good queens produced by the bees in nature's own way.

It was hard to get good queens under the Demaree plan and seldom more than 1, 2 or 3 at most from which to select. The bees were starving up to the 20th of June when the flow opened with a bang and the bees rushed to the fields and little or no attention needed to be paid to the queens or queen cells. Many queens failed and only a few virgins emerged. Many of them never returned to the colony. J. H. Sturdevant,
Nebraska.

The Toad as an Enemy of the Honeybee

By J. E. Eckert,
California.



AN occasional reference may be found in bee literature concerning the toad as an enemy of the honeybee, and its virtues as a destroyer of insect life in the garden have been mentioned frequently. The majority of these references are general and contain but little specific information as to the effect of the toad on hive bees. The unusual weakness of certain nuclei in the queen-rearing yard of the University of California, at Davis, led the writer to make observations which might be of interest to beekeepers and naturalists in general.

The queen-rearing yard and general apiary adjoin a drainage ditch which forms an ideal breeding place for toads. The ditch banks also contain the dens of a few families of skunks. After the breeding season, the toads leave the ditch and scatter in all directions, seeking favorable situations for further development. Many of them find suitable locations in the apiary and around the adjoining buildings. During the dry season, the skunks likewise visit the apiary for food and, at times, have caused considerable damage, especially to nuclei used for the mating of queens. The depredations of the skunks are generally marked by scratches on the hives or by holes dug beneath the bottom boards at the entrance of a hive.

During the present summer, the above indications of visits from the skunks were not numerous but comparatively large droppings, thought at first to be those of the skunk, were found in large numbers in various portions of the apiary. These droppings were more numerous in the vicinity of bushes and water hydrants where the soil was kept moist by irrigation. Traps were set for skunks but only toads were caught in them.

Observation has shown that both skunks and toads generally feed at night when bees normally are confined to their hives by darkness. Toads, however, may come out to feed just after sundown when bees are clustered at the hive entrances. On hot summer nights, bees may remain clustered out all night, and a number of them will be busily engaged in ventilating the hive by fanning. Observations on moonlit nights revealed the presence of a large number of toads in different parts of the apiary, sixteen being counted around one row of twelve hives. Some were seen sitting at the entrances of hives with their fore-feet on the bottom boards. Their motions in catching bees and other insects are so swift that they are hard to follow with the eye. The toad makes a slight move forward, its tongue, which is fastened to the front of its lower jaw, darts out swiftly and the insect disappears. Toads feed almost exclusively on living insects.

An examination of the stomach and colon of a medium-sized California toad (85 mm or 3-5/16 inches long) disclosed the presence of 33 heads of bees, 7 elytra of beetles, 31 ants (more or less intact in the stomach), 4 small arachnids, and some extraneous vegetable matter. Many other chitinous parts of insects were also present, including the wings, legs, antennae, stings, tongues, and the thoracic and abdominal segments of bees, but only the heads were counted as an indication of the number of bees that had been captured by this particular toad. A few days later, after the droppings had been positively identified as belonging to toads, twenty-two individual droppings were examined separately and a total of 514 heads of bees were found, an average of 23.3 bees each. The largest number of heads found in any one dropping was thirty-eight while the smallest number was thirteen. The droppings are elongate oval in form, slightly curved, blunt on one end, and frequently quite pointed on the other. The average dimensions of sixteen samples, taken at random, were 32.2 x 12.1 mm. The largest sample measured 39 x 15 mm, while the smallest was 26 x 11 mm.

From the above observations it is evident that the toad has no place in the apiary. If the gardener wishes to keep toads around for the benefit they do in destroying harmful insects, and desires to locate hives of bees in the garden as well, the hives should be placed on stands so their entrances will be out of the reach of toads.

What Shall Honey Prices Be?

By George Harrison, Jr.
Virginia

When I harvested my crop in 1932 I wondered what I was going to do with it. Would people buy it at any price? My price had been lowered in 1931, but I lowered it again and set out to sell my crop plus a ton of honey left over from the year before. To my surprise honey sold readily and when this year's crop was harvested I was sold out of all the old crop.

Two factors entered into the sales. One was the interest in honey being aroused by the American Honey Institute and the other was the lower price. Stores that never could, or never would, sell honey made good at it. I had quite a nice trade, and the low prices turned out to be a blessing. I made more money than I did when my operating costs were higher, the retail price of my honey was higher and sales were harder to make.

Now I am faced with a problem. I was hoping I could continue to sell honey at a low price and make it part of the diet of many families; but within less than sixty days the price of bee supplies has been advanced twenty percent. The reason given is the advanced cost of production. This cost is added to the goods already manufactured—at low costs—as well as to those in the process of manufacture. The principle is correct.

Why should the advance be added to the goods already on hand? Was not sufficient profit added at the time of manufacture to make up the selling price? Yes, if the production costs had remained the same but not on a rising market. Let me explain it in this manner: If a merchant has on his shelves goods that cost him $5000 and he sells half during ninety days, he will take out his legitimate profit and $2500 left to reinvest. But suppose that during that ninety days the wholesale price has advanced twenty-five percent. To buy back the same amount of goods he will have to expend $3125, dipping into his reserve for $625. Eight experiences like that will use up his entire original

investment, but usually he will not last that long. What he should have done was to mark up the selling price of the goods on his shelves as the wholesale prices advanced. He would then have had sufficient funds left after taking out his profit to replace the goods sold without using any reserve he might have. This is what the supply manufacturers are supposed to be doing.

Now what shall the beekeeper do about his honey on hand produced at 1933 costs? There is only one thing he can do if he wishes to have enough money left to produce a crop next year—advance his prices twenty percent. Will honey sell at a twenty percent advance? I am afraid it won't. Most of those people who have been buying honey have had no material increase in income and when the price goes up they stop buying honey and go back to corn syrup. And that, according to my sales books, seems to be just what is happening.

Herman Rauchfuss Lauded in "Country Home"

In the "Country Home" for December, 1933, Frank Clay Cross writes an article of interest to all beekeepers as well as to the lay reader. It is called "A Bee-Line to Happiness" and its subject is the well-known beekeeper, Herman Rauchfuss. Mr. Rauchfuss has for a number of years been the "brain and sinews" of the Colorado Honey Producers' Association which he helped to found. In his article Mr. Cross lays particular emphasis on the lesson which this famous beekeeper has learned from his bees after more than sixty years of handling them—cooperation. The author writes briefly of the historical facts of Herman Rauchfuss' life and at length of his attitude toward his work, his friends, his family and himself.

There is, in the article, a delightful echo of the old time beekeeper-philosopher, a type of individual which has become all too rare with the advance of modern commercial beekeeping.

An Important Bulletin

"Apple Pollination Studies" is the title of a new bulletin by W. H. Brittain published by the Canada Department of Agriculture at Ottawa. It is an exhaustive study of the subject and should be in the hands of every student interested in this field. The relation of the honeybee to pollination and the difficulty of control of insect pests without poisoning the bees is discussed at length. The bulletin contains nearly two hundred pages and is worthy of careful study.

Missouri Club Team First With Bees

By T. E. Birkett, Missouri.

Boys' Team—First place, Missouri.

THE 4-H Bee Club team of Oregon, Missouri, composed of Ivy L. Bradford and David Elder, Jr., won first place in its class at the recent Missouri 4-H Club round-up held at the College of Agriculture at Columbia. They demonstrated a method of transferring bees which can be effectively used as a substitute for the old shaking method in the treatment of American foulbrood.

Ivy Bradford, who is president of the club, has practically grown up in the bee yard and appears to be following his father's footsteps in beekeeping. This year his four colonies of bees produced twenty full-depth supers of nice white honey which brought a cash return of approximately one hundred dollars. David Elder, Jr., who is secretary of the club, has two colonies which produced this year a total of five full-depth supers and two shallow supers of white honey. This is the second year in which he has been working with bees. Both boys are sixteen years old. Ivy Bradford is a son of Leo R. Bradford, a successful commercial beekeeper of Oregon, who is leader of the club.

A girls' team from St. Louis County, composed of Ruth Boshen and Mary Purdom, won second place with a nice demonstration of a method of feeding bees.

The skill and enthusiasm with which these young beekeepers demonstrated modern methods offers encouragement with regard to the future of the industry.

Girls' Team—Second place, Missouri.

Binding Your Bee Journals

By Earl B. Pride,
Massachusetts.

Toe-ed in cuts, made with a hack saw, through the backs of the volume. Linen thread wound around the base of the cuts holds the Journals for binding.

THE satisfaction derived from binding my American Bee Journals for 1930 has actuated me in writing of the method.

The person who does not care to be a "handy man" and do for himself, in spare moments, a very neat job of bookbinding can avail himself of the offer given by the American Bee Journal to furnish a very serviceable binder to hold the Journals, at a very reasonable cost, but it is to the person who enjoys the satisfaction of having accomplished one more thing that these lines are written.

In preparing to "stitch" these monthly numbers together, be sure to have each one in its proper place. Square up edges and then place a board on either side and clamp securely, leaving about one-half inch of the backs protruding beyond the boards, and with a thin hacksaw cut until you nearly hit the boards. Make these cuts in pairs and have them "toe in." Next take some strong linen thread and wind a few turns tightly at the bottom of the saw cuts and then tie.

The backs of the Journals are now ready to be glued. The glue is applied to the back of the book with a stiff brush. The magazines being 11½ inches long and ⅞ of an inch thick, cut a piece of stiffening (such as used by the tailor) 11½ inches long and 3⅞ inches wide, and place over the glued back so that 1½ inches of the stiffening will lap over each side of the Journals. A strip of heavy paper 11½x⅞" is cut and placed over the glued cloth back. Leave the Journals in this position until dry.

The next step is cutting of the cardboards and cloth for the cover. The Journals being 11½" long and 8¼ wide, the cardboards are cut

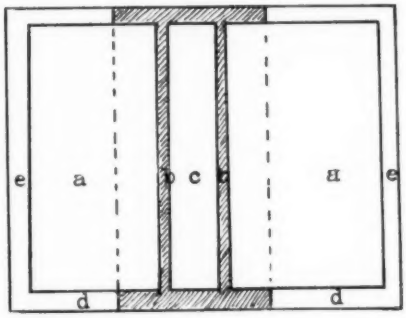


FIGURE 1

aa—cardboards, 11¾x8⅛.
bb—space for creases ¼-inch wide.
c—space for ⅞-inch back.
dd—½-inch margins at top and bottom.
ee—½-inch margins at left and right.

¼" longer than the book (11¾"), ⅛" to protrude at the top and bottom; the width of the cardboard is ⅛" less than the width of the book (you allow a space of ¼" adjacent to each side of the back of the book for the crease, ⅛" margin wider than the book). The cloth back is measured as follows: ⅞" back, ¼ plus ¼ for creases on each side and 1½" plus 1½" cloth extra on each side of the cover, the total width being 4⅛". The length would be 11¾" and ½ plus ½, or 12¾".

Having attached the cardboards to the cloth back (Fig. 1), a piece of heavy paper 11¾x⅞" should be pasted over "c" in Fig. 1 to reenforce it.

The paper used to cover the rest of the book should be measured and cut as follows: Length, 12¾, by 7¼" wide. Paste the top and bottom margins, then the side margins. This completes your cover.

The last step is to fasten the cover to the Journals. Take a piece of paper so that when folded once it will be just the size of the Journals and glue the stiffening to the outside sheet after it has been inserted next to the Journals; also glue this outside sheet to the inside cardboards. Let dry under weights and your task is finished.

Loss of Bees on the Road

Every once in a while we hear of some one moving bees with entrances wide open. It can be done of course. The question is, does it pay? In the first place, when moving by truck the loss of bees would be considerable; for we may be sure that, with the load moving at thirty-five or more miles an hour, every bee that leaves the cluster is **gone.** One day when following a truck load of bees in my car the light happened to be just right so that I could see each one that flew clear of the load. All entrances were closed and only a very few bees on the outside of the screens, but about every 100 yards a bee would soar into the air and disappear. It was certain that those bees would never find their way back.

Another time when closing entrances daylight came before the job was done. A honeyflow was on and several colonies, more active than the others, were flying freely when we came to them. Result: a pound or more of returning bees clustered outside the entrances of these hives. We loaded them that way.

Having just returned from the field these bees were full of food and should have remained quiet. Yet at the end of the 75-mile trip fully half of them were gone. The loss of half a pound of bees per colony from open entrances would be a conservative estimate. With bees at eighty cents a pound this would pay several times over the cost of closing the entrances.

W. H. Hull,
Virginia.

Center Opening for Five Gallon Can

Recently I stumbled on what I think is a decided improvement upon the regular square five gallon tin can used as a bulk container for extracted honey. A few days ago I happened to see an oil truck driven at too high a speed, round a corner. A five gallon can was thrown off and so damaged that the driver thought it of no value and kicked it to one side. I noticed the improved arrangement for emptying and filling that can and wondered why the five gallon square honey can could not have the same arrangement. I took the damaged can with one of my own to a tinner and had the top of one transferred to the other.

As a result I have a five gallon square tin honey can with an opening near the center of the top large enough to admit my hand and a wash

cloth for cleaning. The opening admits enough light for me to see the inside of the can and determine whether or not it is clean. Moreover, when I am filling the can I am able to see very readily when it is full enough.

The opening is closed by a large screw cap with hexagonal sides so that an ordinary wrench can be used to loosen it when stuck. It has a fiber sealer to make it honey tight. In the extreme corner is a small screw cap with a square head that covers an opening suitable for a funnel. When the cap is removed one may attach a spout for pouring honey into smaller vessels. Alfred H. Pering,
Florida.

Saving Those Bees

The article on page 60 by Mr. Carr "Transferring from Diseased Combs" and one on page 310 by Mr. Meurret "A Plea for Mercy" constrains me to relate my experience with American foulbrood with reference to the disposal of the fifty to seventy-five thousand faithful little beings whose right to live should be considered equal to that of any animal.

My method was to fasten into an empty body six or eight slats or top bars for the bees to cluster on. Fasten the inner cover on this prepared hive with two small nails. Set the prepared hive on the diseased colony. Give two or three puffs of smoke and wait two or three minutes. Then drum on one side of the lower body with a frequent puff of smoke at the entrance.

In ten minutes raise the front of the upper body onto a four inch block to note the progress inside. Keep on drumming until all the bees are up into the prepared hive.

Then place this upper body with the bees on the old stand with an excluder under it. In four days remove the inner cover and see the beautiful cluster of pets that you have saved.

Then set on top a body with combs or foundation to suit your supply and the season of the year. I have never had a recurrence of disease with this method in the many treatments I have given.

O. H. Ford,
Indiana.

Cranberry Honey Relish

1 quart cleaned cranberries ground with the medium grinder.

2 oranges ground whole.

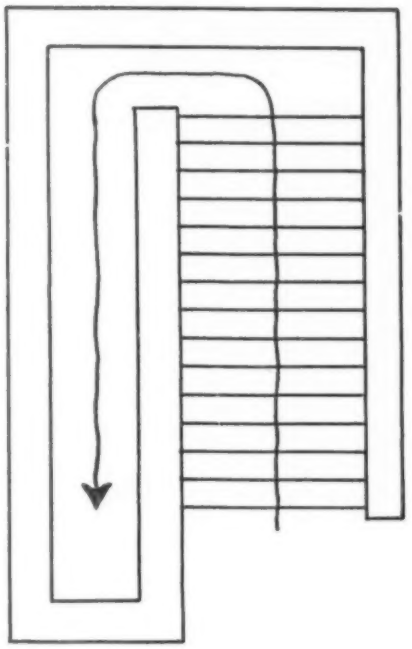
Add one apple if desired.

Add 2 cups of honey and mix with the ground berries and fruit. Let the mixture stand a week or ten days when it is ready to use as a relish.

This is one of Iowa's popular radio recipes. Mrs. Newman I. Lyle,
Iowa.

Suggestions for Using the Beach Melter

By John G. Morris,
Arizona.



The Beach melter (in June), works well. Morris suggests improvements indicated by the diagram and text. Left side partition; flu at left (arrow); furnace pipe sets on base at arrow end; cross bars are for grate in fire box.

IN your June number, Frank Beach, of Idaho, gives a plan for melting old combs and getting out the wax without any mess. I made one of his melters of a capacity for two eight-frame supers of the regular Hoffman size and to say it is the best thing I ever used is putting it mildly. I made an improvement on the furnace by putting a partition lengthwise through it, on the left side as you face the opening, leaving an opening at the extreme end large enough for the flame to pass through to the left, say about six by six inches. Then continuing a flue or opening back the full length of the furnace extending enough past the front to allow the pipe to go up at the end of the tank. To make a base for the pipe on top of the furnace, I cut the ends out of a five-gallon can and placed it on a flat surface. I put a joint of six-inch stove pipe in the center and filled in around the pipe with cement concrete. This can be placed on top of the furnace at the end of the long narrow flue to form a base for the pipe and the flat side of the can will fit snugly up against the end of the tank.

The illustration shows the plan. The cross bars represent a grate in the fire box about four or five inches up from the bottom made from pieces of iron cut to a length to reach into the walls on each side. Flat pieces probably would be best placed close enough together so that too much of the fire will not drop through.

The grate gives a much better draft. The long narrow return flue is filled with dirt to above the level of the grate at the end where the fire enters it and gradually goes higher as it approaches the pipe to reduce the space and crowd the fire up against the tank.

Friend Beach tells of using sage brush for fuel intimating that the furnace requires considerable fuel. Let me tell you that after the first batch of combs is run through, the fuel part is negligible. I made my tank to take two eight-frame boxes and after running the first batch through I used the slumgum from the first lot entirely for fuel for the second and used less than one-fourth of it.

Friend Beach said he got nearly three ounces per frame. I got four ounces but probably he scrapes his frames cleaner when extracting than I do mine. I used to scrape mine as clean as I could reasonably but discovered that the bees used old wax for making comb and for cappings so I eased up on my scraping.

Friend Beach said to use canvas gloves to remove the hot frames from the boxes. I use a pair of pliers like those used with an automobile and find them superior to gloves. A pair of six or seven inch pliers is just right to grasp the top bar about the center. There is absolutely no mess whatever. A square mouth shovel is the best implement for shoveling out the slumgum.

Labeling Honey Bottles

Many bright ideas do not work. In labeling honey bottles, I use labels already gummed, and the thought occurred to me that, instead of moistening the back of each label, I could apply the labels to the wet bottles, after washing them. They adhered perfectly, but the excess of moisture caused the colored inks to run and spoiled the labels. Now I apply the labels after bottling the honey.

S. F. Haxton,
Pennsylvania.

Levulose in Honey

By Steven M. Pattee,
Iowa.

A RECENT discovery at Iowa State College reduces the cost of manufacturing levulose from $130.00 to $5.00 a pound. Since levulose or fruit sugar may be eaten by some persons suffering from sugar diabetes, beekeepers should remind the public of the following facts:

(1) Honey contains over 40% levulose, and only 1% sucrose (cane sugar) which is objectionable to diabetics.

(2) There has been a steady increase in the death rate from diabetes according to the Bureau of the Census. There were fifteen deaths per 100,000 population in the United States in 1912 and this had increased to nineteen in 1928. At the same time the consumption of cane and beet sugar increased from 78.3 pounds **per capita** in 1911 to 110.6 pounds in 1927.

(3) Levulose is much sweeter than sucrose. If the sweetness of sucrose is equal to 100, that of levulose is 173.3. The cost of levulose in honey is very reasonable compared to the cost of manufactured levulose.

Might it not be desirable for the American Honey Institute to investigate the fact that the dextrose granulates first in honey, leaving the levulose in liquid form? Could this thin honey containing levulose be separated centrifugally and sold under a trade name? Such honeys as sage and tupelo rarely granulate and contain a high percentage of levulose. Now if synthetic levulose is worth $5.00 a pound, to some people, what would they be willing to pay for nature's own sweet if they only knew it was good for them?

It must not be inferred that honey is absolutely safe for diabetics. It is no more safe for them than any other item of food. Every gram of their food must be weighed and tested. Nothing is safe for them. However, most of us know diabetics who use honey as a result of a doctor's suggestion.

B. C. Hall, of Manchester, Iowa, started beekeeping years ago upon a physician's advice. He says he used honey entirely. He is now several times a grandfather and is actively managing a grocery, a bakery and almost a hundred colonies of bees despite his diabetes of years ago.

F. B. Paddock tells me of a case given up as hopeless and saved only by the wife's determination and the use of honey, that of Dr. Grant Gordon, of Agricultural College, at Fort Collins. Mrs. Gordon has canned fruit, made lemon pies, and other things with honey and he is in very fine health at the present time.

Because of the benefits which have been received, therefore, from the use of honey, we should ask our friends suffering from diabetes "Have you asked your doctor **if** you could use honey?" instead of telling him that we cannot guarantee that honey is "absolutely safe."

[We have passed the question of the use of honey for diabetics to Dr. Don H. Duffie, of Central Lake, Michigan, through our correspondent, Elmer Carroll, of the Carroll Apiaries, of that same address and Dr. Duffie's reply is as follows:

"It is true that levulose, one of the sugars of honey, behaves rather strangely in the body and one leaping at conclusions might easily infer from some of its peculiarities that it would be useful in diabetes. However, after years of testing with the great Dr. Elliott P. Joslin, of Boston, and others, it has been found that the first effects which seem to be hopeful, do not last, and that its action is of apparent but not real benefit to the diabetic.

"Honey is such a valuable sweet for which so many real advantages can be shown, I regret seeing bee people trying to boost it in a field where its intrusion is fraught with danger."

This is a medical opinion. It is our understanding that honey on the advice of a competent physician is often used, but it is evident that unrestricted use of honey is not advisable and that it may be used only where a physician determines its effects.—Editor.]

Carniolans in Kentucky

In reply to Mr. Edmond Fontaine, on page 445 November, where he asks "Do Carniolans Suit the Humid Climate of Chesapeake Bay?" In the spring of 1931 I owned 21 colonies, 20 of them Italians and one Carniolan. We have many tulip trees and the Carniolan colony stored about three supers of dark bitter honey which I presume was tulip. The same colony stored about 40 pounds of white honey. The Italians did not store any dark honey but about 40 pounds each of white chunk honey.

That fall I lost the Carniolan queen and requeened with an Italian from Texas. In 1932 and 1933 I did not have any Carniolans. Although nectar dropped from the flowers of the tulip tree, the Italians passed it up for wild blackberry. We have had no surplus here the past two years. Sourwood failed, basswood yielded enough to keep the bees from starving and we have plenty of basswood. There was also sourwood, locust, tulip and many other small honey plants.

I would like to have a yard of 75 colonies of Carniolans in the midst of those 400 big tulip trees Mr. Fontaine mentioned. With basswood and sourwood to follow, I would sit down in the shade and quit the coal mines.

Who of the readers of the Journal ever sold honey in a coal mine?

Lloyd Baker,
Kentucky.

Comments from Pennsylvania

In the October issue of the American Bee Journal is a short comment by I. S. Hopkins which truly reflects the reaction the name "foulbrood" has on the honey consumer. In the November issue is a brief article by Elmer Carroll: "Why Change the Name?" It appears to me that Mr. Carroll has shot wide of the mark. Nobody expects to cure foulbrood by changing the name. I doubt that Mr. Carroll read the article from Mr. Hofmaster's pen in the July number.

C. L. Corkins' articles on Caucasian bees have been fine, and I greatly enjoyed them. They are at quite some variance with my experience as I have only four colonies of that breed. However, Mr. Corkins mentions the results obtained in localities other than where he is located. I truly think that locality has much to do with our divergent results.

Federick Hahman,
Pennsylvania.

Imitation Honey

This is the title of a clipping sent to us by Mrs. Edwin R. Harris of Helena, Montana, taken from "The Idaho Farmer" published at Spokane, Washington, in the issue of November 2nd, which reports recipes for imitation honey by Mrs. V. L. H., Latah County, Idaho, and apparently published in their issue September 21st. Apparently the imitation honey is made by "Boiling 5 pounds of white sugar in 1½ pints of water until it is clear, then adding a piece of alum the size of a cherry and boiling two minutes more. The mixture is then taken from the fire and the petals of eight pink roses, 12 red clover blossoms and 20 white clover blossoms added."

Mrs. Harris adds in her letter, "The only thing which keeps me from trying this marvelous recipe is a shortage of pink rose petals. I have written a warm letter of congratulations to 'The Idaho Farmer.'"

[Ha! ha!—Editorial laughter.]

THE EDITOR'S ANSWERS

When stamp is enclosed, the editor will answer questions by mail. Since we have far more questions than we can print in the space available, several months sometimes elapse before answers appear.

HOW TO CLEAN FEEDER PAILS

What can we do to keep the five pound pails we use every spring for feeding from getting rusty? We find that ours become very dirty and even after cleaning they will not become bright again. What is your method of handling and cleaning feeding pails? INDIANA.

Answer.—It is a difficult thing to keep tin feeders from rusting, if you feed sugar syrup. We find the best way is to let the bees clean them, when we are through with them and then wash them and dry them. But if they are to be used right along, it is hardly worth while to wash them.

Honey rusts tin much less readily than sugar. We have had cans filled with honey to remain full for four or five years without rusting, except where the tin is cut and the iron shows. If you wash tins, they will rust very readily unless you dry them thoroughly.

We suppose that it might be possible to keep the cans from rusting by dipping them in very hot beeswax. But we are afraid the cost would be more than the value of the cans.

SPIDERS IN HIVES

There are spiders in my hives which may be the bee-catching spiders mentioned in the Journal (February, 1933). This variety has about a one inch spread with slender legs, a small, dark thorax and a lead-colored, sleek, round abdomen the size of a pea. The spiders have a very repulsive appearance but do not seem formidable enough to catch bees. They do, though, as there are always some dead bees around them.

OKLAHOMA.

Answer.—We have never seen the so-called queen catching spider. This article was from a reader. But spiders of any kind are not to be trusted among the hives and it is a good plan to hunt them out and kill them. The spiders with a large abdomen are usually those that are about to lay eggs.

At any rate, we recommend for any one troubled with spiders to hunt them out and kill them. This is not difficult to do.

MATING—BEEKEEPERS—MOVING EGGS

I have Dr. Lloyd R. Watson's book on the forced mating of queens. Can you give me the system for the nearest approach to the natural mating of the queen and drone within the hive?

2. I would like to know the number of individual bee owners in the United States and Canada, also the leading honey producing states and provinces.

3. If an egg from a worker bee were deposited in a queen cell and fed on royal jelly, what would be the result?

4. What causes the drones to die after a reasonable period of time when they are isolated or closed up within the hive?

OREGON.

Answers.—1. The invention of Dr. Watson, on the artificial mating of queen bees, although very positive, will probably remain a scientific practice, because of the difficulties involved in its mechanical performance. Even in the best circumstances, the mating could only be partially successful. We are not any nearer to the practical success of this than we were a few years ago.

2. I cannot give you any adequate idea of the number of individual bee owners in the United States and Canada. Most of the states and provinces are good honey producing regions.

3. An egg deposited by a worker bee would produce a drone, whether fed on what is called royal jelly, or the natural jelly usually fed to the larva.

4. The drones are short-lived. Besides, they are apt to be ill treated by the worker bees, when their season of usefulness is over.

YEAST AND GRANULATION

1. What is the purpose of destroying yeast spores in honey by heating it?

2. As I extract my crop the five-pound pails are filled from the tank, stored away and allowed to granulate. As these are needed for the market they are liquefied. However, this year there seems to be no granulation. Do you believe that this honey should go to the consumer without being heated? Is it likely to granulate later? INDIANA.

Answers.—1. The yeast spores are understood to be the cause of fermentation and when they are destroyed the honey is much less likely to ferment.

2. Granulation ought to be known to your customers, since it is a natural happening with honey. When we sell honey we always guarantee that it will granulate in winter, as nearly all good honey does, when the weather is cold. If your customer is given this to understand, he will not become offended if the honey granulates, especially if you tell him how he can reduce it to the liquid form. In some countries of Europe one cannot sell honey in winter unless it is granulated.

DEEP FRAMES FOR HONEY

In your book, "The Dadant System of Beekeeping," you recommend the shallow supers for extracted honey production. I am wondering if, after you have the substantial wired brood foundation, the large combs could be extracted without breaking them down. If so, it might be advantageous to use the full depth Dadant frames for surplus, also, as they would be interchangeable. IDAHO.

Answer.—There is no doubt that the honey can be extracted out of large combs as well as out of shallow ones. But we object to the large combs for surplus honey because in many cases the bees cannot fill them fast enough to keep the queen out of the supers and we do not like to use queen excluders. So we find it much better to give the bees shallower stories, which are more readily filled and easier to handle.

You may make a few shallow supers and also use the full stories as supers. You will soon realize what we found out and you will be glad to have some shallow supers to use.

HOW BIG A HIVE?

I have read your book, "The Dadant System of Beekeeping," and am now thinking of using the Modified Dadant hive for an outapiary. I wish you would answer the following questions about it. Here the lake breeze blows all our Spring away. The bees go out and get a little pollen, but they don't begin to make a living until the middle of June; there is no dearth of flowers either.

I have found the standard hive none too large. My best colony is in such a hive. It weighed over one hundred pounds last fall, and I had to add a shallow super of honey last week to keep the bees going. Of course, one Modified Dadant hive would be cheaper than a two-story Hoffman hive, but I am afraid it is too small. How about it?

In any hive the bees soon crowd the queen down with honey. Would they not do so in a Modified Dadant hive? If so, where would this have an advantage over the two-story hive. The queen would soon have her brood nest limited in one as in the other. ILLINOIS.

Answers.—We have used both the Langstroth Standard hive and the Modified Dadant in large apiaries. We have given the preference to the Modified Dadant because the one-story fits the capacity of the queen best. We use shallow supers, because the queen is less likely to leave the full depth story to go into the supers than if the supers were of the same size as the body. We also find that an ordinarily filled main story contains about the right amount of honey to winter our bees. A two-story Langstroth hive is too large, yet some colonies can winter in it. Much depends upon the methods followed.

You say that, in any hive, the bees soon crowd the queen with honey, when the crop comes. Yes they do if you do not give them supers before the honey crowds the queen. This is all a matter of management.

WIDE SPACED FRAMES

I am interested in a hive of larger size than the Langstroth and I understand that the Dadant and Jumbo frames differ only in width of end bars. Does this not leave too much space between the top bars of the Dadant causing the bees to build burr-comb? Do the Dadant frames have a wider top bar? OHIO.

Answer.—We make our top bars one inch wide. But it would probably be a little better if they were made one and one-eighth inches wide. There would be less burr-combs between the top bars. We prefer to keep the frames one and one-half inches from center to center. It gives the bees more room for winter stores above the brood.

LAW OF THE HONEYBEE

1. Is there a law which compels a beekeeper to move his bees?

2. Where can I find a book giving the position of the law in regard to beekeepers? INDIANA

Answers.—1. The moving of bees cannot be compelled unless they may be proven to damage or sting people.

2. The law on bees is published in a book which we can sell you at $1.00 postpaid.

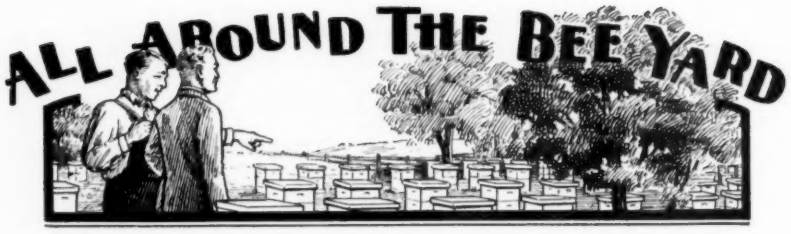
BENCH EXTRACTOR—HONEY CONTAINERS

1. Does the two-frame bench extractor do work good enough for a beekeeper to use it profitably on an apiary of thirty colonies of bees, especially when he produces about an even amount of comb and extracted honey?

2. How would you advise me to prepare the bottles and pails used for the honey? NEW YORK.

Answers.—1. The ordinary two-frame extractor will do very well to extract the honey from thirty or more colonies of bees. We used it for a long time.

2. There is nothing to do, to prepare the bottles and pails for honey. The only requirement is to have the honey well settled, so that there may not be any impurities in it. Some people strain their honey, but it is not necessary if it is clean. When it is left in a tank for a few days, the impurities, if any, go to the bottom or rise to the top. If they are at the top, they are particles of wax and all that is needed is to skim them off.



By G. H. Cale

WRITING from Washington, A. H. Gates, of Garfield, asks about my plan of taking honey, which has been stored over winter in supers, and returning it to the bees in spring, placing it above an escape board with the hole open. He says, "It may work all right for you, but with me it was a failure. Of course a great deal will depend on the spring and the size of the colony. This is how it worked for me: I thought the bees would build up faster with an abundance of stores and I reduced the hole in the escape board to not over an inch, trying to conserve as much heat as possible. The spring was a cold one. The colonies were medium strength, an average of four frames of bees to the colony. Instead of building up, they became weaker. The bees were Italians and some of the colonies were headed by above the average queens. The colonies with the best queens pulled through; the less favored colonies became so weak I had to unite them. There was no end of chilled brood. I laid my trouble to the draft through the lower hive body and the heat escaping into the upper one through the hole.

"My strongest colonies came through, as I just said, but they were a month behind the bees kept by a friend in the same neighborhood, who had his bees in a single hive body with a burlap sack over the frames and a cover on top. If the food chamber were placed below, that would eliminate the escape of the heat but it would invite robbing.

"I am wintering my bees in a single ten-frame Langstroth hive body with a modified top entrance, wrapped in tar paper. When the weather gets warm in the spring I intend to open the bottom entrance, put a burlap sack over the frames, then the cover, and over all, place tar paper. Of course, I'll give them whatever feed they need but I will not add the second body until they need more room."

— o —

There are several interesting points in this letter from Mr. Gates. Evidently his location is entirely different. Here, we have tried putting the super of honey above the escape board with success, although it has been done, I will admit, about the time of fruit bloom or later when our weather is warm and there is little chance of any injury to the colony from continued cold.

The plan of putting the super **underneath the colony** is equally good and is the method we prefer to use ourselves with either the Modified Dadant or the ten-frame hive. With the Modified Dadant, a shallow super is placed on the bottom board underneath the brood nest and the honey is removed by the bees to the brood nest steadily, acting as a stimulation to brood rearing as well as providing food for the growing colony.

— o —

The use of a top entrance for winter is interesting. While at the Springfield, Illinois, convention last month, George Seastream, of Moorhead, Minnesota, reported success with the use of the top entrance for wintering in the cold climate of North Dakota. Mr. Lipsett, of Le-Ross, Saskatchewan, also reports success with top entrance for wintering way up in that country and, as many readers know, it is a common practice in British Columbia.

— o —

On this point of putting a super of honey underneath the brood nest, George Harrison of Bluemont, Virginia, brings up a criticism. It usually takes about 30 pounds of stores to carry the colony from the beginning of winter until about fruit bloom the following season and if the colony is short of this amount, by weight in the fall, it is our practice to leave a shallow super of honey with the colony, in the usual position on top, in the way followed by Mr. Lyle described in the article in this issue "Making the Most of a Good Honeyflow," page 16.

In the spring we usually put this over-wintered super **underneath the colony** but Mr. Harrison thinks this practice would split the brood between the super and the hive body, which might, in cool weather, result in loss. This may be true if it were done during a time when cold weather is likely to occur. Mr. Harrison says that during fruit bloom it may be like mid-June, in Virginia, but a northwester may set in at night, bringing a hint of frost and stay that way for about ten days. If the shallow super with brood had been placed beneath the large hive body during a time like this, it is bound to result in a loss. it would be better to wait to shift the super until more settled warm weather.

— o —

Mr. Harrison says he is not in favor of juggling brood and that he seldom disturbs the brood nest even with the two-story hives. This is the day of short cuts; anything which will save time in the yard is a step in advance. It is not safe to read any plan followed by somebody else and consider that it can be adopted to your own practice. Locations do differ considerably.

— o —

I feel quite complimented on "All Around the Bee Yard." Some of the folks on the other side of the water are paying attention to it. Here comes a letter from Domenico Barone of Baranello, Italy, with remarks about my question on page 440, November, "Ever try to move bees a short distance?" I mentioned the plan of moving the bees, putting dummies in the old locations and then when the bees that returned had collected in the dummies, placing them over the colonies which had been moved with a newspaper between the dummy and the hive proper. Mr. Barone now calls attention to the fact that this was published on page 293 of the American Bee Journal in 1928 over his name. I have looked up the article and remember now that he was the first to give this method, which is quite successful. He says, in his present letter:

"The scheme works nicely and unfailingly whenever applied with care. Last April I moved a whole yard of 45 colonies a short distance. I completed the moving and the unions and left for the whole yard three boxes with bottoms, covers and a couple of combs—one box in the center and one at either end—to catch the bees that would return to the old location. Then using the same newspaper scheme, I united these bees with the weakest colonies at the new place and everything went fine."

— o —

M. Batta, of Liege, Belgium, writes about my remarks in October concerning the difficulty of introducing queens when there is no honeyflow. It seems to surprise him. He says, "I exchanged lately nearly all my black queens for Italians from Mr. Penna with not a single failure, although there was not the merest suggestion of a flow at the time. This is the way I did it.

"The hive is made queenless, then the queen cage, with no attendants at all, is laid in, **wire side up,** and the protection over the candy left on. The hive remains quiet two days, and is then opened without smoke to see that the bees are not balling the caged queen. If all is right, the paper over the candy is

removed and the hive closed another two days.

"If the bees are not quiet, the cover is left on the candy for two days and then the protection removed after the two additional days have passed. Two days after the protection over the candy has been removed, the queen will be out, the cage is taken away, and the frames moved together. A fortnight later the hive is visited and in every case I found the Italian queen and a good patch of new brood and eggs on many combs."

— o —

These suggestions are good, Mr. Batta. I have been told, particularly by Mrs. P. M. Williams of Alabama, **not to remove the paper over the candy.** Mrs. Williams says to leave it on and let the bees gnaw it off entirely. However, we usually do break the paper enough to get the bees started.

In the Land Where Milk and Honey Flows

By Paul Wuerfel
Michigan

One of my earliest school day memories is connected with milk and honey. One day I had forgotten my lunch and had to apply in a near tavern for something to eat. For my money the mistress gave me a glass of milk and a bun well buttered and filled with honey. Never did I taste anything better or more satisfying; and as we then were just learning about the Holy Land "where milk and honey floweth," my boyish mind was resolved to go to that land in order to have often such a fine meal.

I was able to realize my early desire when I spent a winter with one of my sons who held a position in the American University at Beirut, Syria. I had kept bees for about forty years and it was but natural that I wanted to see as much as possible of the beekeeping done in Syria.

In the Lebanon and higher mountains of Palestine the flora comes into bloom gradually, first in the valley, and when that is past a mile further up and so on till the snow region is reached. Bees swarming at the end of blossoming time in the valley find often a new home in the rocks higher up the mountains. As the season advances and the sun finds the combs, honey begins to flow down the rock and is much welcomed by the gathering villagers who come to partake of this sweetness.

In beekeeping, as in farming, very little is seen of modern methods. The farmer still carries his light plow on his shoulders to his acre. His ox or his cow pulls the plow, opening the ground three or four inches. The seed is sown and then the land is plowed once more this time across the furrows which finishes the job until harvest time. Bees are kept in the cone formed straw hive, in logs and even in discarded eight-inch sewer tile. In Sidon a beekeeper claimed good results from the sewer tile. He showed how he closed the front with clay leaving a small hole as entrance for the bees. The surplus honey was removed from the back opening of the tile as often as the bees showed sign of swarming. The honey so harvested is strained, appears dark and tastes of pollen; yet it brings a good price. We paid about twenty-five cents for a pound.

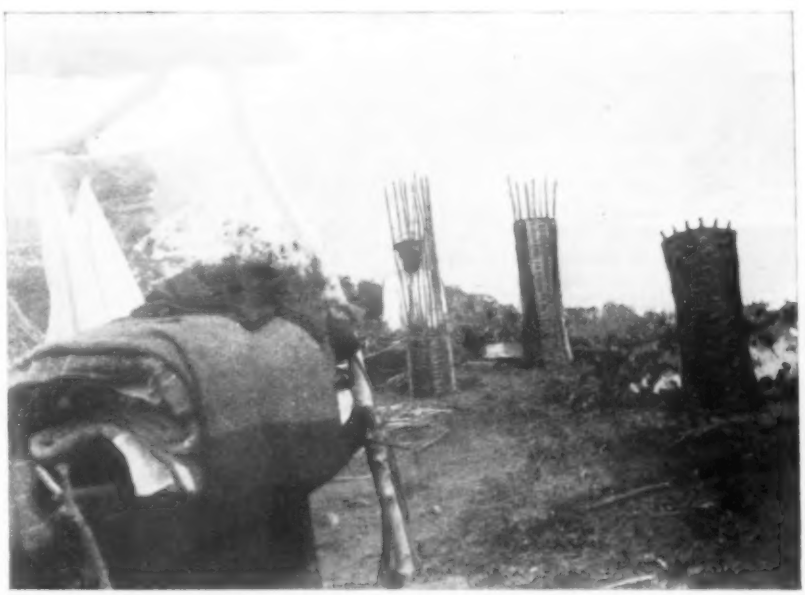
In Palestine among the German and Jewish colonists there are a few instances of modern beekeeping. Modern methods are not more widely adopted because of the difficulty in getting equipment. There is no suitable lumber in Syria. Therefore supplies must be imported from America or Europe, and money for this is usually lacking.

The American University at Beirut is at present running an experiment station in the rich valley between the Lebanon and Anti-Lebanon mountains with the object of teaching young farmers how to use modern methods on their small farms. In beekeeping effort is being made to use as little equipment as possible, thereby adjusting the industry to local conditions and making it more profitable.

New Book by Mace

A revised edition of "Modern Beekeeping," by Herbert Mace, has recently come to our desk. The book has been changed from previous editions only so much as is necessary to bring it up to date. As stated in reviews of previous editions it is nicely bound, well illustrated and will give the American beekeeper a good idea of the practice followed in England. The book can be secured direct from the author at Harlow, Essex, England. The price is five shillings which at normal exchange would be about $1.25 in American money, but due to the depreciation of the American dollar abroad, would cost somewhat more than that amount now.

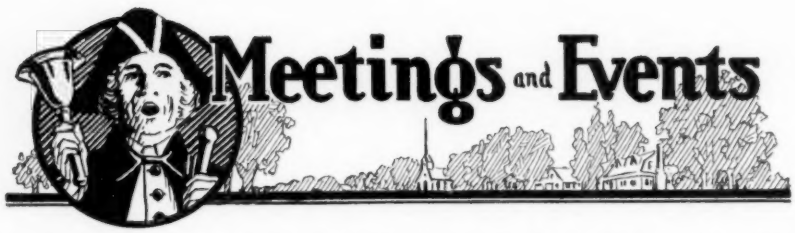
The Hive Maker of Ephesus



HERE is an itinerant beehive maker at work among the remains of the historic city of Ephesus. The hives (approximately four feet six inches high and ten to eighteen inches in diameter) are usually made of mulberry shoots cut from the pollard and interlaced with the bark from the mulberry branches after the leaves have been removed for the silk worm to feed on.

After interlacing, the hive is covered with good clay and allowed to dry slowly in the shade for three to four days when it is taken out in the sun and baked. When in use, the hive rests on the side. Honey from Ephesus is the finest in the world and commands $2.50 per pound in New York. Ephesus honey and wild rose petals, pomegranate juice, sour cherries and wild apples were used to make the original Locoum or "Turkish Delight" which cannot be equalled.

A. O. Blackhurst,
England.



February Meeting of American Honey Institute, Honey Producers' League, Bee Industries Association

Don't forget the big February meeting of the American Honey Institute, American Honey Producers' League and the Bee Industries Association at Minneapolis, February 19, 20 and 21. There is a wonderful list of those to help with the program—J. I. Hambleton, W. F. Straub, David Running, D. D. Stover, Thomas Atchison, F. B. Paddock, M. C. Tanquary, H. F. Wilson, B. I. Evans. The meeting will cover discussions of the work and activities of American Honey Institute, the packaging and marketing of honey with special attention to the possible beekeepers' code. There will be much time spent also in the discussion of the new consumer trends in honey marketing by such people as Mary I. Barber, Mrs. Marjorie Child Husted, Alice Child, Bess Rowe, Miss Richards, Miss Treat, Miss Rock and Mrs. Day. There will be a full program in our February number.

Beekeepers' Short Course—Illinois University, January 16-17

The beekeepers of Illinois are privileged to attend the annual Short Course at the University of Illinois, January 16th and 17th. Renewed interest in beekeeping and the entrance of many new beekeepers to the ranks should assure a good attendance at this course which is usually designed to cover all of the practical phases of beekeeping and the habits of the honeybee.

The program for this year will cover the following subjects: How the Bee Works, Beekeeping Equipment, Removal and Care of Honey With Demonstrations, Requeening, Fall and Winter Management, Swarm Control, Production of Bulk Comb and Cut Comb Honey, Handling of Beeswax, Marketing, Brood Diseases. Faculty will include V. G. Milum, M. G. Dadant, M. D. Farrar, and the new inspector, C. L. Duax.

Those interested should write to V. G. Milum, 104 Vivarium Building, Champaign, Illinois.

Illinois Inspection — Kildow Resigns —C. L. Duax Appointed

We have been informed by the Department of Agriculture at Springfield, Illinois, that Mr. A. L. Kildow, of Putnam, for many years Apiary Inspector of the state, who has devoted a lifelong service to his work, has presented his resignation. We presume it is due partly to ill health and partly due to the reorganization of the inspection work throughout the state, bringing on new duties and cares.

Mr. C. L. Duax of Chicago (whom many will know as Bob White over WLS, Chicago) has been appointed Apiary Inspector. Mr. Duax was formerly located at Chippewa Falls, Wisconsin as a beekeeper. Since coming to Illinois he has developed extensive apiaries here, now numbering about 400 colonies. We extend to him our support.

Annual Short Course at University of Manitoba, January 15-26

Prof. A. V. Mitchener offers his Annual Short Course in the series of Short Courses at the Manitoba Agricultural College, Winnipeg, for the winter of 1934, beginning January 15, ending January 26. The lecturers are as usual, A. V. Mitchener and L. T. Floyd, Provincial Apiarist.

Because of the interest of bees in the Province and because many beginners have been added to the number of beekeepers in the past season, there should be much interest in this course. The price of honey is higher and has largely moved out of the hands of beekeepers so that the honey producer is in a comparatively favorable position. There are many locations in Manitoba where bees may be kept but, of course, profitable beekeeping depends on a thorough knowledge of the bees and the use of equipment in the most economical way.

This course provides an opportunity to all experienced or perspective beekeepers to secure new ideas about bees and beekeeping. It covers life history and anatomy of the honeybee; equipment for beekeeping; nectar and pollen producing plants; apiary management; honey and its uses; production and uses of beeswax; methods of marketing; bee diseases and control. Several members of the Faculty of Agriculture and Home Economics will give special lectures.

The registration fee is $5.00. Board and room may be obtained at the Manitoba Union of the University Site at the rate of $6.00 per week. Students living in Winnipeg will be able to come from and return to their homes each day by bus or street car. Additional information may be obtained by writing the Department of Entomology, University of Manitoba, Winnipeg.

Empire State Meeting, Syracuse January 19-20

The annual meeting of the Empire State Honey Producers' Association will be held in the Mizpah Hotel, Syracuse, New York, Friday and Saturday, January 19th and 20th.

Among the many interesting features of this meeting will be a full discussion of the Proposed Bee Products Marketing Agreement of the U. S., drawn up under the rules of the Agricultural Adjustment Act of May 12, 1933. This meeting is of utmost importance to every beekeeper in New York State.

E. T. Cary,
Secretary-Treasurer.

Honey Exhibit for League Meeting February 19-21

An extensive honey exhibit is being planned for the annual convention of the American Honey Producers' League and Convention in Minneapolis, February 19, 20 and 21. The Nicollet Hotel is turning over to the Convention for exhibit purposes their beautiful Francis I room connecting with the large convention hall.

Will all who expect to send any exhibit material to the convention please write me not later than January 15th, stating what they have and the amount of space required, so that proper arrangements may be made?

M. C. Tanquary, Secretary,
Minnesota Beekeepers' Association,
University Farm, St. Paul, Minn.

New Jersey Convention at Trenton January 25

The New Jersey Association will hold its Annual Convention in Moose Hall, Trenton, January 25th. Allen Latham of Connecticut will be the principal speaker. "The Role of Cellophane in Marketing Honey" will be discussed by a representative of the DuPont Company. On January 26th, at 10:45 A. M., Miss Francis will discuss the uses of honey before a meeting of the Rural Women in the Y. W. C. A. Hall.

E. G. Carr,
Secretary-Treasurer.

Three Michigan Meetings — Adrian, Flint, Saginaw

There will be three meetings in Michigan, January 10th at Adrian, January 11th at Flint, and January 12th at Saginaw.

At the annual meeting in Grand Rapids, the beekeepers endorsed the proposed Marketing Agreement, with the exception of the clause limiting increase to 5 per cent per year. The

purpose of these three district meetings will be to give beekeepers a chance to learn what the Agreement seeks to do and how it will operate.

The officers of the Association will assist with the program; also Mr. Kremer, Extension Specialist in Beekeeping. There are several other matters of particular interest to Michigan beekeepers which will be included in the discussions.

Russell H. Kelty,
Secretary-Treasurer,
Mich. Beekeepers' Association.

Utah Meeting, January

Beekeepers of Utah are looking forward to their 1934 convention which is held in Ogden during the annual livestock show. This year the show falls on January 5-11. The 1934 convention should be one of the best attended and most optimistic gatherings in the history of the Utah Association.

Glen Perrins,
Utah.

Iowa Convention

The Iowa beekeepeers' convention was held at Ames, November 16 and 17 in connection with the affiliated societies. Attendance was better than for some years past and a spirit of optimism prevailed. The paper of greatest interest was the one by Prof. Fulmer dealing with the control of granulation in honey which will be published in detail in this journal.

All the papers of the convention will be published in the annual report of the State Apiarist. One session was held jointly with the horticultural society when papers of mutual interest were considered. At this session the subject of bees in pollination of orchards and the bees' relation to fireblight were considered.

E. G. Brown was elected president.

Death of Emery Menzo Gibson

Emery Menzo Gibson, 87-year old beekeeper, died at Price, Utah, recently. He was born in Herkimer County, New York in 1847. He was a Civil War veteran and came to Utah in 1891 and started beekeeping. Later he moved to California where he was located at San Diego for twenty years, then moved to Los Angeles and then back to Utah.

Glen Perrins.

Death of Francis Albert Ross

"Frank" Ross, 51 years of age, died in Puyallup, October 18. He leaves a wife, three boys, three girls and many friends. He was a telegraph operator for the Northern Pacific for twenty-six years and one of the best known beekeepers of the Northwest. He was Superintendent of the bee and honey department of the Western Washington Fair for ten years. One of the most active members of the Pierce County Beekeepers' Association and was bee inspector for a number of years.

J. W. Peterson.

The Code in Utah

According to President Wakefield, of the Utah Association, beekeepers of Utah are campaigning for cooperation of the producers from all parts of the state for the proposed code for producers and packers of honey. A code committee of the Association expects to organize local units and sign up, if possible, the 65 per cent of the production.

Glen Perrins.

Report of Oregon Meeting November 10-11

The Association named A. J. Sanford, Redmond, as President; S. D. Williams of Portland, as Vice-President; H. A. Scullen of Oregon State College, Corvallis, Secretary-Treasurer. Chairmen of committees were selected as follows: Education, Callie Osgood, Newberg; Legislation and Inspection, J. S. Skovbo, Hermiston; Organization, W. A. Rodda, Hermiston; Marketing, S. D. Williams, Portland; Fairs and Exhibits, Callie Osgood, Newberg, Chairman of exhibits at the State Fair; and Eber D. Mossie, Chairman of Exhibits at the Pacific International; Research, L. J. Dame.

It was resolved by the Oregon Association to endorse the code for producers and packers as approved by the League in the Chicago meeting in October with the reservation that the increase of 5 per cent per year be taken under further consideration.

S. D. Williams, chairman of the Marketing Department who represented the local association at the meeting in Chicago, explained the marketing agreement so far agreed upon by the National Honey Producers' League and emphasized the necessity of making a detailed study of all the features in order to determine whether the agreement would affect the interest of Oregon beekeepers favorably or otherwise. He will appreciate receiving criticisms, objections and suggestions.

Other important resolutions were to the Extension Service of the Agricultural College to give honey its proper place as a food, as far as possible, and to include honey in the food demonstrations, through boys' and girls' club work, radio service, demonstration agents and other demonstrations; that the Association recommend the next research project to be taken up as a cooperative program of the Pacific States Bee Culture Laboratory be a study of factors affecting the marketing of honey in the Northwest; that the Association stand back of the inspection law to make a study of needed requirements or additions; that the Association send to the members of the family of Mr. Lee Turner their deepest regret at his passing. (Mr. Turner was a member of the Association and Chairman of the Research Committee.) That the Association make Dr. Don C. Mote Honorary Member in appreciation of his work.

The field work for the second year of studies on the cost of honey production in Oregon, conducted by the Experiment Station and the Pacific States Bee Culture Field Laboratory, is now completed. They reveal interesting facts and bring to light some of the outstanding factors affecting the cost of honey production in Oregon—disease, swarming and queening practices, and heavy winter and spring losses are the most important factors affecting honey production costs.

L. J. Dame of Portland, in his talk "Developing New Uses for Honey by Chemical Research," mentioned the use of old honey as an ingredient of paste, soap and other by-products. Chas. A. Cole, Chief, Division of Plant Industry, State Department of Agriculture, told the beekeepers of the difficulties his Division was meeting in collecting the inspection fees and otherwise enforcing the provision of the new State Law.

Saturday was devoted to trade agreements and marketing problems, discussed by Prof. E. L. Potter, Head, Division of Agricultural Economics, Oregon State College; J. D. Hamilton of the Marketing Service, Bureau Agricultural Economics and S. D. Williams of Portland.

Don C. Mote,
Secretary-Treasurer.

Report of Wisconsin Meeting

All officers of the Wisconsin State Beekeepers' Association were re-elected at the concluding session of the annual convention held November 23 and 24 at the Hotel Plankinton, Milwaukee, with the exception of Prof. H. F. Wilson, Madison, who declined to be a candidate again for secretary, which office he has held for several years. H. J. Rahmlow, Madison, was elected in his stead. Other officers were named as follows: A. H. Seefeldt, Kewaskum, president; George Jacobson, Kaukauna, vice-president; V. G. Howard, Milwaukee, treasurer and Miss Arlene Weidenkopf, Madison, assistant secretary. E. W. Puhl, Chippewa Falls; William Sass, Fond du Lac and John Kneser, Hales Corners, were elected to the board of directors.

The precedent set when the State Department of Markets fixed a fair retail price for milk should be invoked to protect honey producers, C. W. Aeppler, Oconomowoc, said at the opening session of the convention.

"The department can set a fair price for honey to help the beekeeper just as it fixed a fair price for milk to help the dairy farmer," Mr. Aeppler said. "I would suggest that a minimum price be set for a five-pound pail of honey. The honey in small glass jars generally brings a fair return."

Honey prices in Wisconsin have been sliding down for more than 10 years, until prices are lower than in almost any other state, it was said. Some of the decline is blamed on the grading rules established by the Department of Markets.

The prospective code, formulated several weeks ago by representatives of the industry from all over the nation at a meeting in Chicago was presented and discussed. Speakers included besides Mr. Seefeldt and Mr. Aeppler, Miss Lavonne Taylor of the American Honey Institute, who told the delegates that honey is now used by beauty preparation concerns as an important ingredient because it smooths the skin and improves the complexion.

The annual banquet was held on Thursday evening, the feature of which was honey and honey flavored foods on the menu.

Report of 43rd Illinois Convention

The 43rd Annual Convention of the Illinois Association on November 15th, St. Nicholas Hotel, Springfield, was one of the best attended meetings in recent years. There was much enthusiasm, many new faces and a good sprinkling of young people interested in bees; starting in rather a large way for those who are just beginning beekeeping ventures. All of this points in the right direction. It indicates a bright future. There never was a meeting with more keen interest.

Speakers—C. L. Duax—Mentioned benefits of membership in a beekeepers' association. Every beekeeper should know what these are but so many don't.

Mrs. C. L. Duax of Cook-DuPage Association told members of how the Cook-DuPage Association gets out a recipe folder. (A splendid folder. We have a copy.) It gives tested recipes by members of their own association, tested in their own kitchens. (Black and red, a two-color job.) These folders are on sale. If other associations would like to see them, send to Mrs. C. L. Duax for a sample copy. 1000 folders sell for $3.00. (That's cheap enough.)

M. G. Dadant of American Bee Journal staff gave a paper giving the history of beekeeping from the old to the new showing the trend of the times. It was an excellent paper. We hope to print it in American Bee Journal later. Watch for it.

G. H. Cale of American Bee Journal staff gave the point of view of the modern beekeeper with his hundreds of colonies, concentrated production of extracted honey, the use of modern equipment to reduce the cost of production, contrasted with the old garden variety of beekeeping which existed in the generation which just closed.

V. G. Milum, of the University spoke to the membership about the benefits of American Honey Institute. Mr. Osborne as a self-appointed representative of the Institute took up a subscription of $50.00.

Miss Brooks gave a reading of Mark Anthony's "Green Pastures." One of the high lights of the program. Miss Brooks has a delightful way of making her own interpretation. The Association enjoyed this for a full evening.

Business—The following officers for 1934: President, C. A. Mackelden, Jerseyville; Treasurer, Elmer Kommer, Woodhull; Secreary, Edwin Peterson, Kewanee (son of Lawrence. Everybody knows Lawrence.) Vice Presidents as follows: 1st, A. G. Gill, Chicago; 2nd, W. S. Lohnes, Peking; 3rd, Roy Annear, Mulkeytown; 4th, Heber W. Jones, Cary; 5th, C. L. Duax, Chicago.

Committee on World's Fair to secure representation for Illinois honey: C. L. Duax, M. A. Gill, W. A. Wooldridge; to secure space for honey cooking in conjunction with honey exhibit at the State Fair, Lawrence Peterson, A. J. Bodenschatz and Taylor Hoyt. Mrs. Duax was charged with the care of the hostess table.

The committee on Culinary Department for honey cooking, Mrs. Duax, Mrs. Simmer, Mrs. King.

Resolutions—(1) Thanks to St. Nicholas. (2) Thanks to Executive Committee and Legislature for due appropriation. (3) Thanks to A. L. Kildow for years of service. (4) Thanks to American Honey Institute and assurance of cooperation. (5) Sympathy in death of Mr. McClure.

Other Business—J. R. Wooldridge of Chicago elected to Honorary Membership. Secretary salary reduced from $200 to $150 a year. Report on State Law affecting marketing of cellophane wrapped sections of honey, referred to Illinois Dairy and Food Department, 228 S. Wabash Ave., Chicago.

Remarks—Since comb honey producers of the past two years have had little money to spend for sections, offgraded and ungraded comb honey has to a large extent disappeared from the market making it possible for well graded and well produced comb honey to secure more ready sale in some places—(observed by Ross Morrill, Batavia.)

C. P. Dadant and Jas. A. Stone, only remaining charter members of the Association. Mr. Stone was present at this 43rd Annual Convention (three cheers!).

Short weight sections wrapped in cellophane or similar wrapper condemned for effect on dropping comb honey prices to present low point. (Something in this. Don't know who the member was who proposed this criticism.)—G. H. C.

Meeting and Short Course, Fargo, at Farm and Home Week, January 17.

The annual meeting of the North Dakota Beekeepers' Association and winter short course in beekeeping will be held at the North Dakota Agricultural College, Fargo, January 17 in connection with Farm and Home Week. Talks of importance to beekeepers are being arranged for the program, and it is hoped that as many of the beekeepers as possible will attend since it is being held in advance of the national beekeepers' meeting in Minneapolis during February.

J. A. Munro,
State Entomologist.

Winter Meeting of Ohio Beekeepers January 31—February 1, 1934.

The Ohio Beekeepers' Association has scheduled its Annual Winter Meeting on January 31 and February 1, in conjunction with the Farmers' Week program at the Ohio State University. The two-day program covers a variety of important beekeeping subjects on which twelve different speakers will participate. Everyone interested is extended a cordial invitation to attend the meetings.

W. E. Dunham,
Secretary and Treasurer,
Ohio Beekeepers' Association.

Death of Harry E. Miller

Friends in Illinois and nearby will regret to learn of the death of Harry E. Miller, of Aledo. Mr. Miller was active in association work and was Deputy Inspector for his section of Illinois for several years. We remember him particularly for his genial good humor and sincere interest in beekeeping. Our sympathy to his people.

(Will C. Egbert of Aledo, sends us the notice. Thanks Mr. Egbert.)

Beekeeping Short Course at Purdue Annual Conference.

We are in receipt from Prof. J. J. Davis of the program of the Annual Agricultural Conference at Purdue University, West Lafayette, Indiana, January 8-12.

The Beekeeping Short Course offered this year will cover beekeeping in Indiana, feeding bees, making increase, spring management, swarm control, honey production, comb and extracted honey production, the life of the bee (accompanied by moving pictures), bees for the orchard, fall management, wintering, marketing honey, diseases and control.

The teaching staff will be Inspector J. E. Starkey, Prof. B. E. Montgomery, Dr. M. D. Farrar of the University of Illinois, Frank J. Koehne, Director Indiana Food & Drugs Laboratory; W. M. Weber, President Indiana State Association; W. A. Rushton, past President; Frank L. Street, Henderson, Kentucky; Ross B. Scott, Lagrange, Indiana; L. R. Stewart, Newport, Indiana. Those further interested, send for a program to Prof. J. J. Davis at the University. Remember the date, January 8 to 12.

That Code Restriction on Increase

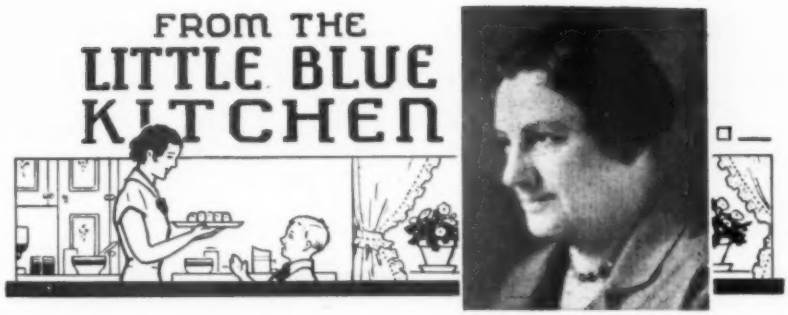
Refer to the statement of the proposed honey marketing agreement on page 470, December. Under the code of fair practices, point 9, read "The producer may not increase his holdings of bees **more than 5 per cent in any one year** but may make greater increase than this by purchase or lease of the rights of some other producer operating under the agreement."

This is drawing fire from many quarters. A letter from Don B. Whelan, secretary of the Nebraska Honey Producers' Association and O. S. Bare, Extension Entomologist, protests, in the name of the Nebraska Beekeepers' Association, against this proposed restriction clause, which, they say "looks like an attempt to throw the control of the industry into the hands of a few large commercial producers. To the smaller beekeeper the agreement is decidedly unfair. We certainly have no right to attempt to force it on anyone. We feel, too, that it will be sure to work to the detriment of package bee shippers and bee supply manufacturers. If any attempt to control increase is made, it seems to us it should be on a sliding scale, according to the number of colonies owned by the individual beekeeper. We would draw your attention to the fact that in no other line of agriculture is any attempt being made to force a reduction."

Other states are likewise voicing their protests of this part of the proposed agreement which certainly deserves considerable careful thought. We are inclined to agree entirely with the objections.

A Unique Magazine

The October number of Scottish Beekeeper is devoted to publications on bees. Within its pages is found a vast fund of information regarding the present day books on bees as well as those of years long gone. Twenty-five pages are devoted to a catalog of the Moir Library of the Scottish Beekeepers' Association.



NEW YEAR'S SERMONETTE
(Text: Corinthians 11;6-10.)

Tho' you have sorrow in your heart
On this, the New Year's Day;
Try o'er your blessings to rejoice
And clouds will steal away.

Though you be poor in worldly goods
Still, if yourself you give
To others, you may give them grace
Abundantly to live!

Ay, though you seem to nothing have
Let this not you distress,
For he who has a conquering heart
The whole world may possess!

So at the blessed New Year-tide
Tho' life seem mourning-clad,
Thank God for love, and share that love!
So shall your year be glad!

—Lida Keck-Wiggins.

— : —

WELL, how do you like Blue Kitchen's new outfit? Looks pretty spiffy, doesn't it, or chic, or swanky, or just plain comfy—whatever you think "sounds" the nicest and makes you happiest this New Year day!

Sordid folk, blase people, cry "Pooh! What's in New Year's Day anyhow? Just another day—just another January 1! I can't see why any one makes anything of the day, or makes foolish resolutions—it's nothing but a plain day to me!" To all such we say "Happy New Year" anyhow, but to those who have sentiment still watered and blooming in their hearts; to those who DO like to make good resolutions even if they DO break them, we say even more heartily "Happy New Year!"

Personally, I think it a fine, wholesome practice to make mental or spiritual or financial inventory on New Year's eve, and then start on January 1st trying at least to keep such resolutions as the self analysis showed you would be salubrious, to say the least. What if you do break some of them; what if you break all of them? It can't do you any harm to have looked yourself fairly in the eye; taken stock; and to have admitted that at least there was room for improvement. And ANYway people HAVE been known to KEEP New Year's resolutions! Yes they have!

Why shouldn't you be one of the keepers instead of the breakers? It may be a little harder, but oh my, what a fine glow it brings to the face and into the life if at the end of the year one may say to himself "Well, I can honestly say I kept last year's resolution and I believe I am a wee bit better than I was a year ago!" Oh well, no more preaching now; it's time to talk about good eats, especially honey eats, so as Lowell Thomas says, "So long until next month!" Meantime I just can't repress it—so here 'tis—Happy New Year one and all!

— : —

Honey Lady was honored some time ago by receiving from a very eminent physician a pamphlet describing an ancient manuscript done on papyrus, discovered between the legs of a mummy in one of the graves of the Necropolis at Thebes, and written about by one Ebers, a noted author who once occupied the chair of Egyptology in the University of Leipzig. The whole manuscript was very fascinating, but what Honey Lady wants to tell Blue Kitchen readers is that certain hieroglyphic characters heading the Papyrus Ebers, as the article is called, represent a bee, and these characters when translated reveal the fact that honey was used as a medicine, being listed with "sweet figs and herbs." Referring to laxatives as "medicines which open up the body" the old manuscript speaks of one remedy of the kind which contained milk, honey and bread dough. The New Jerusalem incidentally is, in Holy Writ, designated as a land "flowing with milk and honey."

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Beekeepers' wives should never forget what a real medicine we have right on our shelves when we have them stocked with honey.

— : —

And now for a few honey recipes which Honey Lady hopes you'll all like and have as good luck with as she did in the Blue Kitchen lab.

— : —

It's likely most everybody will be entertaining in some way around New Year's, and it's nice to know a really good sandwich filling for parties, or a "snack" after a show, or just any time when sandwiches fit in. Here's one that Honey Lady's friends always ask the recipe for after she uses it on party sandwiches.

Delicious Sandwich Filling

(If you have a food grinder it will make this mixture of a nicer texture

to grind up all the ingredients with the finest chopper knife blade. But you may otherwise chop the bacon and eggs and peppers together with a cabbage chopper.)

Well here's what you put into the filling:

10 or 12 slices of breakfast bacon, fried crisp
3 or 4 hard boiled eggs
4 green peppers
3 tablespoons of vinegar
½ cup of strained honey

Mix all solids together, blending as perfectly as you can. Mix the vinegar and the honey, and add drop by drop to the bacon, egg and pepper blend. Let stand until needed. Then spread on buttered bread, white or whole-wheat, having carefully trimmed off the crusts.

Double or treble these proportions according to the size of your "crowd."

— : —

For a change in the youngsters' school lunch basket why not put in a few nut-honey sandwiches? You make them by grinding up nut meats (hickory nuts are especially good for this) and then mixing nuts with strained, or better still, crystallized honey and spreading on buttered bread.

— : —

It pleased Honey Lady greatly to see how many merchants celebrated Honey Week. One chain store group gave out folders containing many fine honey recipes for that week. Incidentally, Honey Lady wants to take occasion thus to publicly thank Helen Diehl Olds, the noted writer of children's books and stories, who has kiddies of her own and uses much honey in their diet, for sending on this chain store folder to Blue Kitchen. Here is a cake Mrs. Olds gives her two boys. Why not make one for yours, old or young?

Honey Sponge Cake

6 eggs separated
½ cup sugar
½ cup honey
¼ cup boiling water
½ teaspoonful salt
Juice and rind of 1 lemon
1 cup cake flour

Boil sugar and water till it spins a thread and then add honey. Pour over stiffly beaten whites and beat until cool. Combine with egg yolks and lemon juice and rind beaten until thick. Sift flour and measure. Resift several times. Fold in flour and bake in slow oven (300° F.) one hour.

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This same chain store folder gives us this helpful hint heading it

How to Drizzle Honey

Place honey jar in warm (not hot) water for about ten minutes before using. It is then just the proper consistency to drizzle tiny golden threads instead of a thick and heavy stream. It is easier to get the proper amount of sweetening by drizzling than by pouring from a cold jar.

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If you happen to be "eggless" so far as your own flock is concerned, or flockless with egg prices soaring as they are here in the Empire State, here is a special Providence by way of an

Eggless Honey Cake

Try it. It's "pow'ful" good!
½ cup shortening
1 cup sugar
2 tablespoons honey
2 cups flour
¼ teaspoonful cinnamon
1 teaspoonful baking soda
¼ teaspoonful ground cloves
¾ cup water

Mix the ingredients in the order given, creaming the sugar and butter well together before adding the honey. Mix the spices and soda with flour and sift into sugar and butter. Add water last. Stir well and pour into a flat buttered pan. Bake in a slow oven (325° F.) for one hour.

— : —

Did you ever think about this—that a bee seldom stings except when you hit out at him sharply and quickly? A slow fending off with a gentle movement of the hands will often prevent a sting. Same way if you are dealing with folks who have a sting at the end of their tongues. If you "go at" them roughly they will sting you to death with sarcasm or anger. If you go easy with them chances are that your soft answer will turn away wrath—anyhow Solomon said so, and you know he was the smartest man in the Bible.

— : —

When you make fruit salad or a fruit cup to serve as an appetizer, remember that sweetening the fruit with honey will give it a differently delicious flavor.

— : —

Once more Happy New Year and may you keep as sweet as "the honey in the comb" all the round year through!

From Old Records

According to the Louisiana Historical Quarterly for October, 1933, bees were introduced into west Florida from the Atlantic Coast in 1772. (P. Hamilton-Colonial-Mobile.)

In 1791 there were few bees west of Florida and such as there were had lately been brought from Europe. The English when taking over the country from the French and Spanish reported no bees in this part of the country, though they were numerous from Nova Scotia to East Florida. (Bertram-Travels through N. Carolina-1791.)

The Modified Dadant Hive in Chile

(Translated from an article in **El Apicultor Chileno** of November, 1932.)

The Modified Dadant hive commences to show us its advantages in a practical way. Some days ago I visited my apiary in Conchali to examine all the swarms installed during the year in my promising Dadants. Some, the strongest, had already constructed their eleven frames, and on examining them one by one, I saw with pleasure that all those occupied by brood had in their upper part a strip of about two and three-fourth inches of honey, below which was found brood covering a surface equal to that of a Langstroth frame. These frames showed that they possessed precisely the space for honey that is needed in the Langstroth hive, and for which the owners of this latter, the Langstroth, are obliged to leave them with a super located above during the winter. (Already explained in No. 10 of our review.)

What pleasure, what satisfaction I felt on seeing so well proved the greatest advantage that some of the apiculturists of the central zone find in this type of hive! Now we may with tranquility devote our attentions in the winter to the sale of our products, to the preparation of hives, etc., since we shall be sure that our bees will pass an agreeable and abundant winter which they so worthily deserve for their hard and productive labor.

I shall continue observing during the present season the other advantages still to be shown in practice, and if this hive proves all we expect of it, we must make a campaign to have our Association declare it the "Official Hive of Chile."—R. Becker.

Sweeten With Honey

By C. M. Litteljohn
Washington

Food producers, cereal manufacturers, some leading eating establishments and home economic demonstrators are urging with greater frequency sweetening of dishes with honey. Recent notable advertising posters of a breakfast cereal manufacturer showed enticingly the sweetening of this breakfast food with honey by a rosy-cheeked, yellow-haired child. Waffles are invariably sweetened with honey in many of the more exclusive and successful tea rooms of the country, as well as in countless refreshment fountains of the land.

Moreover, one of the most encouraging trends of the day to all bee men is the manner in which home economic specialists and exponents of the culinary art are embracing

honey as a superior means of sweetening an almost infinite variety of foods, of creating entirely new menu magic, and affording greater health and nourishment to a larger body of people.

Honey is found to be supreme as a sweetener of all manner of delightful dishes since it contains far more elements and finer qualities than refined sugar. The most natural of sweets, it is discovered to give a dish an indefinable something that sugar can never impart. So it is now being used more and more in amazing combinations of home recipes.

The honey jar may well be adjudged the modern autocrat of the family table, be it breakfast, luncheon or dinner. Upon cereals, as well as buckwheat cakes, in muffins, cakes, nut breads, cookies, and a thousand delightful dishes it is employed to the Queen's taste, and is considered by many the best sweetener for the child's warm milk or the adult's coffee.

So many extremely healthful attributes are part of honey, that it is unexcelled as a veritable tonic for the alimentary tract and digestive organs that are kept functioning better by its use.

Doctors have oft advised the sparing use of sugar where they have by the same token recommended more generous imbiding of this product of the honeybees. From the standpoint of health, it has been found to be one of the finest foods with which to sweeten other foods, adding to their richness, nourishment, wholesomeness and unexampled taste and flavor.

Three-Bite Pies

Roll left over pastry to thickness of one-fourth inch. Cut into rounds, with small biscuit cutter, prick with fork and bake in hot oven until brown. Cool. Then split into halves, spread one-half with cream cheese (rubbed to a paste with cream). Spread the other half with fruit spread made by cooking together one-third cup orange juice, a tablespoon of butter, package of sliced pasteurized dates and a tablespoon of honey until a thick paste is formed. Press halves together.

Mrs. Benj. Nielsen,
Nebraska.

Honey from Buckwheat

This season I planted a three acre patch of buckwheat. I was much surprised at the large quantity of excellent honey I got from it. Bees work on buckwheat early in the morning. After nine o'clock few bees are to be found on the flowers.

—H. W. Lea.

Merrill's Quality Bees and Queens

Our 24th year breeding and shipping bees and queens of quality and we have plenty of bees and queens ready for you in this year 1934. We shipped the first package of bees out of the state of Mississippi.

We can give you excellent service and satisfaction.

Code Prices

Packages (with queens) November 1—May 31

	1-9	10-49	50 or more
Two-Pound	$2.65	$2.55	$2.45
Three-Pound	3.40	3.30	3.20

Queens — November 1—May 31

1-9	10-24	25-49	50 or more
.85	.80	.75	.70

(Discounts from price of 50—10% for 100-249; 15% for 250 or more —Packages or Queens.)

First in quality and service.

MERRILL BEE COMPANY

Mississippi's Oldest Shippers — BUCKATUNNA, MISSISSIPPI

Wanted Fancy White Comb Honey

Not Wrapped but in Glass-Front Wood Cases
State best price Frt. Paid Cincinnati, O.

THE FRED. W. MUTH CO.

DIAMOND BRAND
Garon's Bright Italian Bees & Queens

Ready to book orders, large or small, for our Diamond Bees and Queens at minimum Shippers' Code Prices. We urge early booking.

CODE PRICES

Package (with queens) Nov. 1—May 31

	1-9	10-49	50 or more
Two-Pound	$2.65	$2.55	$2.45
Three-Pound	3.40	3.30	3.20

(Discounts from price of 50—10% for 100-249; 15% for 250 or more—Packages or Queens.)

Queens — Nov. 1—May 31

1-9	10-24	25-49	50 or more
.85	.80	.75	.70

Garon Bee Company
Donaldsonville, Louisiana

PROFIT MAKING HELPS

Dadant's Surplus and Plain Foundations

Dadant's Crimp-Wired Foundation

Adoption of a code by beekeepers in an endeavor to obtain fair prices in production of honey, wax, and other by-products means one thing—increased production. ¶ Dadant's Foundations will help you do this and obtain the highest quality. Made of pure beeswax these foundations are accepted by bees readily and make combs that are really combs. Use them next time.

PETTIT'S PACKAGE WILL BE AT YOUR SERVICE THIS YEAR AS USUAL

With prices fixed by Code you can order from your favorite shipper regardless.

CODE PRICES

PACKAGES (with queens) November 1—May 31.

	1 to 9	10 to 49	50 or more
Two-Pound	$2.65	$2.55	$2.45
Three-Pound	3.40	3.30	3.20

QUEENS November 1—May 31: 1-9, 85c; 10-24, 80c; 25-49, 75c; 50 or more, 70c

Discounts from price of 50—10% for 100-249; 15% for 250 or more. (Packages or Queens)

We have ten years' experience successful shipping. Guarantee satisfaction in every way.

MORLEY PETTIT, Albany, Georgia, U. S. A.

Two Thousand Four Hundred Colonies—*for PACKAGE BEES*

And Yet, Believe It or Not: we only have a limited number of package bees unbooked.

How do we get the early orders? Here it is in a nut shell—we ship by fast express, extra good bees and queens, full weight, within 30 hours of the date specified. Now you see why we get early orders, without so much advertising. A satisfied customer, not only helps keep our business, but also helps get new business. Reports show that some of our packages shipped last spring gathered over 400 pounds surplus.

CODE PRICES

PACKAGES (with queens) November 1—May 31.

	1-9	10-49	50 or more
Two-Pound	$2.65	$2.55	$2.45
Three-Pound	3.40	3.30	3.20

QUEENS November 1—May 31: 1-9, $.85; 10-24, $.80; 25-49, $.75; 50 or more, $.70

(Discounts from price of 50—10% for 100-249; 15% for 250 or more—Packages or Queens)

T. W. Burleson & Son :: Waxahachie, Texas

A New Year's Resolution!

REALIZING that I cannot expect the sugar, maple syrup, sorghum, corn syrup, jelly, and other spread manufacturers to advertise my honey for me and as I haven't the time to write copy and contact industries that can use honey along with their products, I have resolved for 1934 to turn this problem over to The American Honey Institute, and, accordingly, I pledge Money or Honey as indicated below.

A NEW YEAR'S MESSAGE OF CHEER
to
American Honey Institute

"During the calendar year of 1934, I agree to pay to the Institute, as near as I can estimate, on _____, 1934, $1.00 for each ton I produce, and I believe the amount will run at least to $_____, or, I will donate twenty pounds of honey for every ton I produce and estimate that I will ship to my nearest honey receiver _____ pounds on or about _____, 1934.

Signed _____

Place _____

Route _____

State _____

Cut out and mail to American Honey Institute, Com. State Bank Bldg., Madison, Wisconsin.

Your Display or Classified Ad in A-B-J Brings Results That Please!

THE BEEKEEPERS ITEM

The Southern beekeeper's own magazine, but read by honey-producers everywhere. Combined with the American Bee Journal makes a combination that covers the beekeeping field.

Send $1.50 and get both magazines for a full year.

BEEKEEPERS ITEM, San Antonio, Tex.

Package Bees for 1934

Write for description of stock, prices etc.

The Crowville Apiaries
Rt. 1 Winnsboro, La.

High Grade Italian Queens

By careful selection and breeding for over thirty years, we have built up a strain of large Italians of a most beautiful yellow color. They are the gentlest bees we ever saw of any race or strain. Write for our free book "About Bees" which is a brief treatise on beekeeping.

Jay Smith, Vincennes, Ind.

We are Cash Buyers of Honey and Beeswax
Submit samples and best prices, freight prepaid Cincinnati
We also furnish cans and cases.
The Fred. W. Muth Co. PEARL & WALNUT CINCINNATI, O.

LET TAYLOR BEES DO THIS FOR YOU

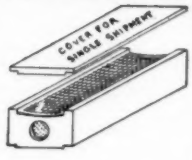
Read this testimonial and see if your bees have done as well.

"Taylor Apiaries — Gentlemen: The package bees I bought from you in '32 made me an average of 400 pounds. In '33 they did better than 500 pounds each. It was hard to believe the difference in the strain of bees. They are so gentle it is a pleasure to work with them. Those big yellow queens sure mean success. Please let me know how soon I can get queens as I want to requeen the rest of my apiaries. J. R. Christie, Box 312, Sebewaing, Michigan."

Did your bees do as well for you? Perhaps you are not using the right strain. Write for prices. We have never had disease in our bees or near us.

TAYLOR APIARIES, Luverne, Alabama

THE PINARD NAILLESS QUEEN BEE SHIPPING CAGE



Send for Sample

—Agents—
DIAMOND MATCH CO., Chico, Cal.
ROY S. WEAVER & BRO., Navasota, Texas

A. B. PINARD, Mfg.
810 Auzerais, San Jose, Cal.

LADY-LIKE CAUCASIANS

Our Mating Guarantee Is Your Protection

The stock is true. The breeders are well selected. Every queen is mated to a Caucasian drone.

Send for Free Caucasians Circular and 1934 Prices

Caucasian Apiaries, Brooklyn, Ala.

Crop and Market Report

Compiled by M. G. Dadant.

For our January Crop and Market Report, we asked correspondents to answer the following questions:

1. How is honey selling locally?
2. How is the jobbing demand?
3. What proportion of the honey has been moved out of the hands of producers of your section?
4. Are retail prices above last year? How much?
5. Likewise jobbing prices.

How Is Honey Selling?

Reports would indicate that honey is not selling locally as well as it did a month ago which is not to be surprised at because at the time this is written, the people had concentrated on Christmas buying, rather than on the buying of food like honey.

The sale of honey seems to be slowest in the Southeast and East, getting gradually better as we go west with the best sales in the Rocky Mountain territory and on the Pacific Coast.

Of the South, Texas seems to be in far the best shape as to honey sales, reports coming that honey is selling in very good fashion.

The same reports come from Idaho to California and the intermountain territory. There local sales are in most cases good.

Jobbing Demand.

As in the case with the local sales of honey, the jobbing demand seems to get better as we progress west and we find the best demand is the central states and in the intermountain territory although there has perhaps been a shortening of demand during December. In practically all instances, however, the jobbing demand is not heavy, being classed as poor to fair. Only in the Canadian provinces, has the demand been particularly active and this no doubt due to the satisfactory price and the possibilities of export.

Percentage of Honey Moved.

In this category, we find by far more honey moved out of the hands of producers this year in percentages than in several years past. We know of no reports coming in where less than 30 per cent of the honey has been sold and the average for the entire list of reporters will run between 70 to 80 per cent of all the honey disposed of. There are, of course, a number of contributing factors to this. One is the short crop, another is the advancing price which has meant a quick movement from the producer to the distributor of honey and the third is that during the past nine months, there has been almost a million pounds more of honey shipped for export than in the previous like period in 1932. While this only means thirty cars, it does remove from competition this much honey.

Where Are Retail Prices?

Again as we go from East to West, it is apparent that retail prices are up in better proportion in the western sections than in the East. Part of this is probably due to the fact that the eastern seller of honey did not drop his prices as low as did the Central West and plains area man. Also taken into consideration is the fact that the jobbing demand is better and thus the big producers of honey in the West are naturally advancing their retail prices also or they would not find it advantageous to sell locally.

The Southeast generally is reporting an even poorer demand and poorer price than last year. This is at variance, however, with the balance of the country although some reports from New York and the New England states are that the demand is exceedingly poor. We would say that about 15 to 20 per cent of the reporters figure that the prices are no better than last year but that the balance of the reporters are stating a price advance in a retail way of from 15 to 20 per cent.

Jobbing Prices.

Jobbing prices are apparently up all over the country except perhaps in the Southeastern sections where the jobbing demand seems to be dragging yet. We believe, however, with the present demand for amber honey, that their honey will also soon move and at least at prices equal to last year, if not a considerable advance.

Most reporters state that the jobbing advance in price over last year has been at least 1 cent per pound and in California on some amber grades, the advance has been considerably more than this being reported as 70 per cent over last year's prices. The general average of advance in jobbing prices runs from 15 to 30 per cent with the bulk at 22 per cent.

In Canada, naturally the retail prices and also the jobbing prices are in advance over last year owing to the duty on sugar which gives an increase of at least 2 cents per pound and also the very favorable arrangements between Canada and Great Britain whereas there is a favorable exchange for Canadian honey as compared to those outside the Dominion.

Summary.

All in all, beekeepers are certainly not going to go into the new crop year with any great supply of honey on hand. In 1932 the opposite was the case; but we find honey rapidly cleaning up. This naturally is partly due to a short crop but we cannot say it is entirely direct. Just what the possibilities are going to be when the 1934 crop is harvested, is another matter. We have had a number of beekeepers tell us that the short crop is entirely responsible for the advance in prices and that with a big boom crop, there will be a considerable drop in prices of honey. This is a question, however, which will have to be met at the time because with increasingly desirable business conditions, it would mean that the prices on honey would at least be held if not advanced. One guess is as good as another when it comes to the 1934 crop.

There has no doubt been a diminution in the demand both retail and wholesale for honey during December. A number of jobbers, however, and not a few of the retailers and distributors have stated that this is a natural consequence of the holiday season and that there is a very strong encouraging tone to the market possibilities immediately after January 1.

All in all, conditions seem to be favorable to the disposition of the crop and the beekeeper who did not sell on the first market last fall is apparently going to benefit by a more satisfactory market during the later selling months.

We Are Cash Buyers of Honey and Beeswax
Submit samples, and best prices, freight prepaid Cincinnati. We also furnish cans and cases.
Fred W. Muth Co. Pearl and Walnut Cincinnati, Ohio

Renew Your Subscription
Write for Our Special Club Offers
AMERICAN BEE JOURNAL

Edwin H. Guertin 201 N. Wells St. Chicago
Buy and Sell All Grades Extracted Honey
References: 1st National Bank, R. G. Dun or Bradstreets Commercial Reports.

The BEEKEEPER'S EXCHANGE

Copy for this department must reach us not later than the fifteenth of each month preceding date of issue. If intended for classified department, it should be so stated when advertisement is sent.

Rates of advertising in this classified department are seven cents per word, including name and address. Minimum ad, ten words.

As a measure of precaution to our readers, we require references of all new advertisers. To save time, please send the name of your bank and other references with your copy.

Advertisers offering used equipment or bees on combs must guarantee them free from disease, or state exact condition, or furnish certificate of inspection from authorized inspector. Conditions should be stated to insure that buyer is fully informed.

BEES AND QUEENS

PETERMAN'S High Quality queens and package bees; sixteen years in the business. Queens are young layers, large and select (not yard run) leather color clear down—no bands; they produce three-banded workers unequaled for honey production. Package bees are young bees, drones screened out, fed on sugar syrup in transit, shipped in light non-return cages. Now booking orders delivery starting April 1st, 1934 at code prices. H. Peterman, Lathrop, California. (Member California Bee Breeders' Association.)

THREE BANDED Italian bees and queens for 1934. Write for circular.
Alamance Bee Co., Graham, N. C.

BUY THE BEST package bees and queens for 1934. We have them. Vigorous, gentle, disease resistant, three-banded Italians. Best honey producers. Write for information and prices. H. C. Short, Fitzpatrick, Alabama.

YOU CAN still get personally reared queens from Roy S. Weaver & Brother. Package bees and queens at code prices. See page 8 this issue. Order early.
Roy S. Weaver & Bro., Navasota, Texas.

TEN YEARS with Caucasian Bees. Write for description and prices of our select bred gray mountain bees for 1934.
Bolling Bee Co., Bolling, Alabama.

HONEY FOR SALE

HONEY FOR SALE—Any kind, any quantity. The John G. Paton Company, 230 Park Avenue, New York.

FOR SALE—White clover honey in 60-pound cans. None finer. Satisfaction guaranteed. J. F. Moore, Tiffin, Ohio.

HONEY FOR SALE—Keep your customers supplied with honey. We can furnish white and light amber honey at attractive prices. Packed in 60-lb., 10-lb. or 5-lb. tins. Dadant & Sons, Hamilton, Ill.

FOR SALE—Black Hills' Fancy White Extracted Honey in 60-lb. cans. Write for prices. Ernest W. Fox, Fruitdale, S. Dakota.

FOR SALE—Northern white, extracted and comb honey. M. W. Cousineau, Moorhead, Minn.

HONEY—We sell the best. Comb in carriers of eight cases each; extracted, basswood, buckwheat, sweet clover, white clover and light amber. A. I. Root Co. of Chicago, 224 West Huron St., Chicago, Illinois.

CHOICE Michigan Clover Honey. New 60's. David Running, Filion, Michigan.

HONEY—New crop clover, amber and buckwheat, both comb and extracted.
F. J. Smith, Castalia, Ohio.

HONEY FOR SALE—It will be to your advantage to communicate with me before buying your next lot. Thos. D. Sherfick, Shoals, Indiana.

WHITE CLOVER extracted honey, sample 15c in stamps.
Kalona Honey Co., Kalona, Iowa.

FOR SALE—Amber and buckwheat comb and extracted. H. G. Quirin, Bellevue, Ohio.

CHOICE HONEY in 5, 10 and 60 pound tins and 1 pound glass. Prices and sample free. Henry Stewart, Prophetstown, Ill.

WHITE CLOVER COMB HONEY. Extracted Clover in 60-lb. cans 7c lb. Extracted Buckwheat in 60-lb. cans 6c lb. 1-lb. sample, 15c. F. W. Summerfield, Grand Rapids, Ohio.

FOR SALE—Well ripened clover honey, carlot or local shipments. Will be pleased to submit sample. Also new crop section comb honey, in carrier crates of four or eight cases. The Colorado Honey Producers' Association, Denver, Colorado.

LIGHT AMBER clover honey, $7.20 case.
Edw. Klein, Gurnee, Illinois.

FOR SALE—Bulk comb and extracted honey at depression prices. Also 200 colonies bees and supplies.
F. E. Hyde, New Canton, Illinois.

FOR SALE—Buckwheat comb and extracted.
C. Holm, Genoa, Illinois.

SLIP us a $1.00 John and we'll deliver your Mary a 2½-lb. tin of the finest pure maple cream or sugar she ever allowed you to taste. Or a half gallon first run pure maple syrup up to 4th zone. And SAY get our new illustrated circulars wholesale prices of the finest health sweets and make money distributing for us. Start the new year right.
Griswold Honey Co, Madison, Ohio.

BUCKWHEAT and amber comb honey, fancy, $2.25; No. 1, $2.00; No. 2, $1.50.
Noel J. Loucks, Springboro, Pa.

WHITE and light amber section honey.
Rollie Johnson, York, Illinois.

CHOICE water-white honey, one can or carload. McIntire & Sons, Fruitdale, S. D.

IF YOU are wanting honey, write me for prices. A. L. Kildow, Putnam, Illinois.

HONEY AND BEESWAX WANTED

WANTED—HONEY and BEESWAX. Beekeepers will find it to their advantage to communicate with us. Please send samples, state quantity available and prices. CALIFORNIA HONEY COMPANY, Hamilton & Company, Agents, 108 W. Sixth Street. Los Angeles, California.

WANTED—Comb and Extracted honey. Mail sample, state quantity and price.
Sherfick Farms, Shoals, Indiana.

WANTED—A car or less quantity of white honey in 60-lb. cans. Mail sample and quote lowest cash price for same. J. S. Bulkley, 816 Hazel St., Birmingham, Mich.

WANTED—Car lots honey; also beeswax, any quantity. Mail samples, state quantity and price. Bryant & Cookinham, Inc., Los Angeles, Calif.

FOR SALE

VERY PROFITABLE BEE BUSINESS for sale in Canada. Sacrifice price. Address Box S, American Bee Journal.

FOR SALE 300 colonies bees and package business; all painted factory equipment; wired combs on full sheets foundation. Or, after January 15, will sell as nuclei or package bees. L. L. Ferebee, Pineland, S. C.

150 COLONIES of Caucasian Bees in first-class condition. Lots of other equipment, all new.
J. S. Nease, 104 Wood Ave., Salida, Colo.

APIARY—150 colonies banded Italians, fully equipped, inspection certificate, splendid locality. Other business calls me away.
J. V. Huchingson, Dade City, Florida.

FIFTY COLONIES bees in two-story, ten-frame hives, wired foundation, no disease. Best offer takes them.
W. H. Buchholz, Deshler, Nebraska.

FOR SALE OR RENT—In Michigan's finest clover region, 31 acres, 15 cultivated, 150 swarms of bees, free from disease, in 8-frame hives, equipment for comb honey, barn, three cows, shop, garage, honey house, bee cellar, 12 room house, running water.
Mrs Anna Goodwin, Lyons, Mich., R. No. 1.

WANTED

EXCHANGE forty acres land Carter County, Missouri, for honey or bee supplies.
City Clerk, Tempe, Arizona.

BEEKEEPER experienced in honey production and queen rearing wants year-round employment with some beekeeper, beekeeper farmer or bee company. Wisconsin preferred. Wm. Kruse, Jr., Godfrey, Illinois.

HELP WANTED—For 1934 season beginning March 1st, experienced package and queen men. Must be thoroughly competent and reliable.
Jensen's Apiaries, Crawford, Miss.

WANTED—Experienced man for queen rearing, must be reliable and know the business. Give references, age, experience and wages expected.
Box W, American Bee Journal, Hamilton, Ill.

WANTED — 10-frame empty hive bodies. Must be guaranteed free from disease.
Martin Carsmoe, Ruthven, Iowa.

WANTED—Bees and equipment, send inventory.
N. Ellingson, 1437 Cleveland Ave., St. Paul, Minn.

SUPPLIES

BEST QUALITY bee supplies, attractive prices, prompt shipment. Illustrated catalog on request. We take beeswax in trade for bee supplies. The Colorado Honey Producers' Association, Denver, Colo.

PORTER BEE ESCAPES save honey, money, avoid stings; faster most efficient. Sample 15c. R. & E. C. Porter, Lewistown, Ill.

DIFFERENT, that's all. Written and published for the instruction of beekeepers. 52 pages of breezy entertaining beekeeping comment each month. One year, $1.00; two years, $1.50. Sample, 3c stamp.
The Beekeepers Item, San Antonio, Texas.

SAVE queens. Safin cages now 15c. Ten for $1.00. Allen Latham, Norwichtown, Connecticut.

FRAMES—Standard Hoffman, $3.65 per 100. Send for price list today.
Northern Bee & Honey Co., Osceola, Wis.

"WHIRL DRY" CAPPINGS DRIER and 4-frame Lewis-Markel Extractor for sale in Montana. In good condition, but owner is installing larger machines. For particulars write to S. P. Hodgson & Sons, New Westminster, B. C., Canada.

MEDIUM BROOD foundation, five pounds, $2.00; ten pounds, $3.75.
Fred Peterson, Alden, Iowa.

FOR SALE—Comb foundation at money saving prices. Plain, wired and thin section. Wax worked at lowest rates.
E. S. Robinson, Mayville, N. Y.

MISCELLANEOUS

WE BUY DOMESTIC RABBIT SKINS. Price list free. L. I. Farm Prods., Rosedale, N. Y.

PLANS FOR POULTRY HOUSES — All styles; 150 illustrations. Tells you the type to build for your particular locality. Secret of getting winter eggs, and copy of "Inland." Send 25c. Inland Poultry Journal, Spencer, Indiana.

THE BEE WORLD—The leading bee journal in Great Britain and the only international bee review in existence. Specializes in the world's news in both science and practice of apiculture. Specimen copy, post free, 12 cents stamps. Membership of the Club, including subscription to the paper, 10/6. The Apis Club, Brockhill, London Road, Camberley, Surrey, England.

ALPHA CLOVER SEED, 45c lb. Postage paid. A. Wm. Bowman, LeRoss, Sask., Canada.

TO INCREASE honey crop one-third to two-fifths, write Delbert Lhommedieu, Colo, Ia.

TRUE VITEX SEED, 50 cents an ounce. Instructions to grow.
Chas. Ferguson, 3803 Madison, Fresno, Cal.

Dyce to Succeed Millen

Dr. E. J. Dyce has been appointed professor of apiculture in the Ontario College of Agriculture and Provincial Apiarist as successor to the late F. Eric Millen. Doctor Dyce is well trained and is popular with the beekeepers and should prove a capable administrator. We wish him well in his new position.

A Suitable Memorial

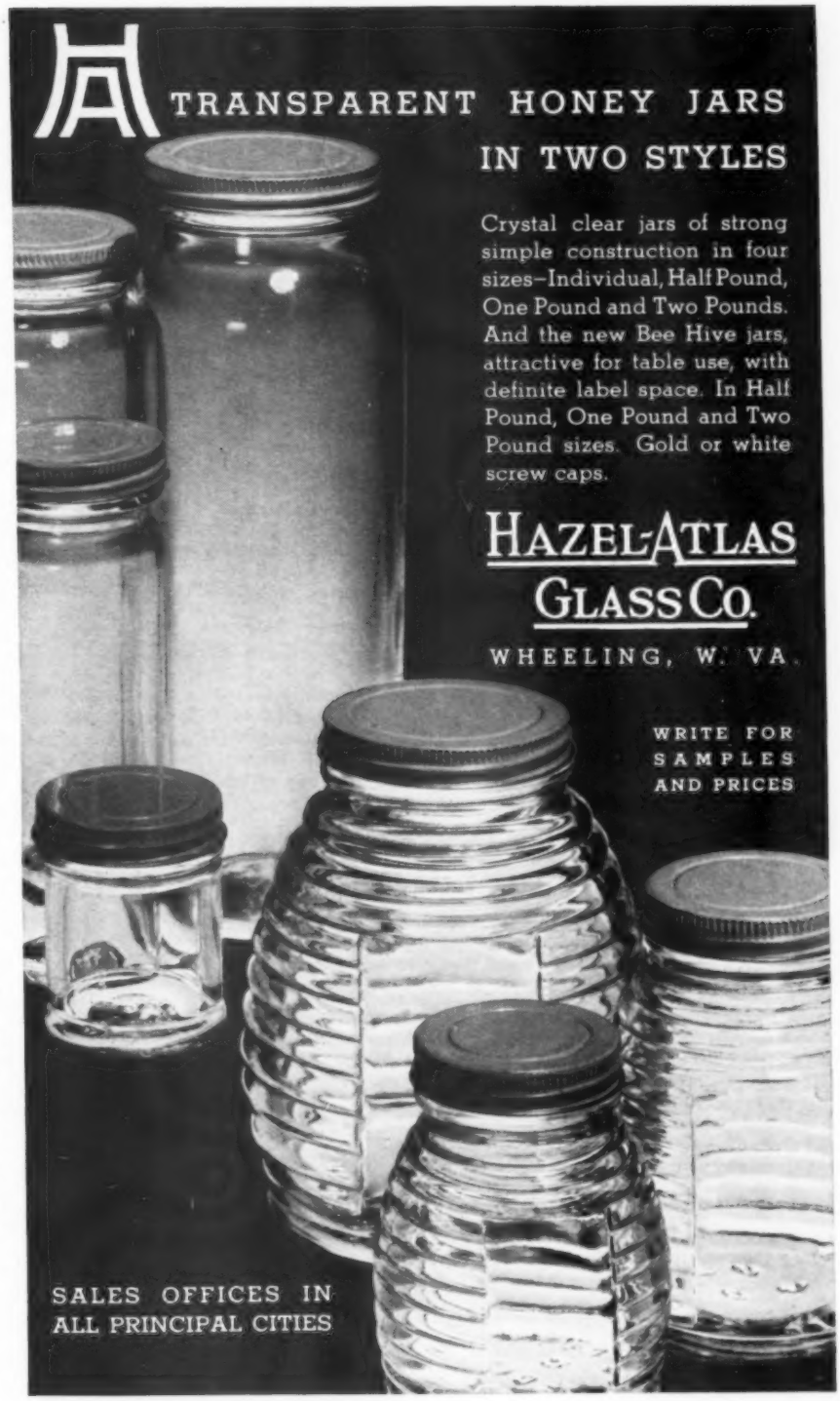
Mrs. Millen and daughters have endowed a scholarship valued at $400 in memory of the late Professor Millen at the Ontario College of Agriculture. The fund is to be invested in securities and the income awarded annually to the senior student submitting the best thesis or having the highest standing in apiculture. A large collection of books and papers relating to beekeeping was also presented to the college library. Professor Millen was associated with the institution for so long that such action seems very appropriate.

Honey Icebox Cookies

1 cup shortening
1 cup brown sugar
1 cup honey
1 egg
6 cups flour
1 teaspoon salt
½ teaspoon soda
4 teaspoons baking powder

Cream shortening, add sugar and honey. Add egg and beat well. Then add sifted dry ingredients. Form rolls one and a half or two inches in diameter and place in refrigerator over night, or for several days. Slice thinly and bake in a moderate (400 degree) oven.

Mrs. Benj. Nielsen,
Nebraska.


TRANSPARENT HONEY JARS
IN TWO STYLES
Crystal clear jars of strong simple construction in four sizes–Individual, Half Pound, One Pound and Two Pounds. And the new Bee Hive jars, attractive for table use, with definite label space. In Half Pound, One Pound and Two Pound sizes. Gold or white screw caps.
HAZEL-ATLAS GLASS CO.
WHEELING, W. VA.
WRITE FOR SAMPLES AND PRICES
SALES OFFICES IN ALL PRINCIPAL CITIES

Our Guarantee—Pure Italian Bees Service and Satisfaction

We guarantee to ship only pure Italian bees, all queens purely mated, safe arrival, freedom from disease. You can make money with our packages. Light cages that save express; quick express service

Booking orders now at code prices. Help us to help you by ordering early.

CODE PRICES

Package (with queens)	Nov. 1—May 31		
	1-9	10-49	50 or more
Two-Pound	$2.65	$2.55	$2.45
Three-Pound	3.40	3.30	3.20

Queens — Nov. 1—May 31			
1-9	10-24	25-49	50 or more
.85	.80	.75	.70

(Discounts from price of 50—10% for 100-249; 15% for 250 or more—Packages or Queens.)

G. E. Hummer Co.
Prairie Point, Mississippi

The POSTSCRIPT

GOSSIP ABOUT THE OFFICE IN THE MAKING OF THE MAGAZINE

Noah Williamson, of Iowa, says that when he only had a couple hundred hives of bees he had a lot of fun at beekeeping. At that time he knew the condition of every colony and was able to compare its behavior with the previous year and he found much of interest in a study of bee habits. After he had a thousand colonies, beekeeping became just another business with so much to be done that there was no longer time to enjoy the incidental happenings by the way. That is typical of the change that has come to beekeeping in recent years.

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Probably the most characteristic thing about beekeepers is curiosity. The mail brings me many interesting glimpses into the lives of my readers. They want to know the what and why of many things. This opportunity to cultivate the acquaintance of so many congenial folks is the best thing about my job. Certainly the questions and suggestions give one much to think about as well as some puzzling problems. **When a man reaches the point where he is no longer primarily interested in bees for what he can learn about them he ceases to be a beekeeper and becomes a honey producer.**

— : —

Newman Lyle, after several years as extension teacher of beekeeping for Iowa State College, seems to be enjoying himself completely with his bees. Keeping only such a number as he can manage with the assistance of Mrs. Lyle he has reduced overhead expenses to a minimum and is able to enjoy a better income than he received from the college. At the same time he has more freedom with time to enjoy life as he goes along.

— : —

A few days ago a beggar on the streets of Des Moines asked me for money to get something to eat. Although he was well dressed I gave him a dime. Late that night when I went to my room in the Savery Hotel, who should I meet in the elevator but that same panhandler. Looks like a racket to me. So many are in real distress in times like these that it makes it easy to take advantage of people. — : —

A correspondent asks which clematis to plant to insure that it will be attractive to the bees. There are several kinds of clematis which make attractive ornamental vines. The large flowered kinds are most interesting but they are not the best for bees. The small flowered white varieties commonly called "Virgin's Bower" are the source of nectar. They grow wild in many places and are common in the Rocky Mountains.

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Another revives the old question as to whether the honeybee was native to America. A careful check on all reports to date indicate that the honeybee came from Europe and was imported by early colonists. References will be found in the June, 1923, and March, 1924, issues of this Journal. — : —

One cannot turn on his radio without running into some kind of discussion of economics. We are all trying to reach the same point but there is much disagreement as to the right road to travel. One cannot but regret the tendency to use harsh terms concerning persons with opposite opinions. Some speakers would be pleasanter to listen to if they were less inclined to crucify those who differ with them. To call others who are equally sincere, crooks, and chiselers is not very convincing argument. — : —

When so-called experts in finance disagree concerning policy how is the common man to know the correct procedure? There is some comfort in the thought that no matter where we are going we are all moving along together. Fortunately for the beekeeper his work takes him away from the turmoil of the market place and he can forget the discomfort of business adjustment to some extent. — : —

W. L. Ritter, of Hampshire, Illinois, has a different opinion of the kingbird than I. He says that he has seen them catch young queens when they went out to mate. With these birds nesting in my apiary I was never able to see that they did any damage to the bees although they did catch an occasional drone.

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A Saskatchewan reader wants suggestions as to honey plants which he can profitably cultivate. Aside from sweet clover it is doubtful whether there is anything which he can plant for the bees with profit. Sow thistle and Canada thistle both yield nectar freely but the big problem is how to get rid of them. Fragrant Giant Hyssop does well in that region but is probably already present. With the various kinds of sweet clover it is possible for him to get a long flow.

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Speaking of honey plants makes one wonder why somebody does not plant an acre of catnip to see what the bees can do with it. Catnip is a famous honey plant without anything to sustain its reputation except the fact that bees are always to be seen on it.

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J. J. Wilder writes that northern and western honey is coming into the Southeast at prices lower than the local producer can meet. The buyer looks for the lowest price with disastrous results for the man with a small average yield. Wilder says that he can see no remedy for such a situation. It is by no means confined to his locality. Many others are having to meet similar competition. — : —

Many beekeepers seem interested in transferring bees from Langstroth to Modified Dadant hives. If combs are straight it is a simple matter. Since the frames are of the same length it is only necessary to set the frames containing brood into the larger hive and fill the remaining space with frames of foundation. As fast as the brood emerges from the comb next to the outside it can be removed and a new one be given in its place. This is slow but does not tax the colony. If the combs are uneven it is not so simple. I transferred an entire apiary in this manner and it was a tedious task since so many colonies insisted on keeping brood in the outside comb. — : —

The Chicago Journal of Commerce estimates that more than forty percent of the National income now goes for taxes in one form or another. If we have trouble getting any money that may give us a clue as to where it has gone. — : —

A former Iowa man wrote that sunflower honey is scarcely fit for table use. He reported full supers from a large acreage of wild sunflowers. Who else has harvested sunflower honey? — : —

The announcement of a memorial to Professor Millen in the form of a scholarship at the Ontario College of Agriculture will interest his friends in the States. Millen served as apiarist in both Michigan and Iowa before taking his final position in Ontario and was well known in the middle west. — : —

The cosmetic trade offers an outlet for large quantities of beeswax and is an important factor in the wax market. A certain well known firm making use of radio in advertising is warning the ladies not to use face creams containing wax. Perhaps if they hear from a few beekeepers who listen in they may have the same change of heart as the advertiser who connected bad breath with the eating of eggs and incurred the ill will of the entire poultry industry.

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And now we must learn to write 1934 at the top of our letters. With the coming of the new year let us try to forget the discomforts of the old and make a new start. To all my readers I send a hearty wish for a happy new year.

FRANK C. PELLETT.